University of Alberta

Uncertainty: Fathering in neonatal intensive care

by

Maria Grace Golberg

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in partial fulfillment of the requirements for
the degree of Master of Nursing

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M Golberg.

P. O. Box 251
Dalmeny, Saskatchewan
S0K 1E0

99.4.14

The really unexpected happens so seldom that few of us know how to deal with it. We all move, for most of the time, in a small circle of known possibilities to which we have learned the responses. Outside this circle lies chaos, a dark land without guidelines (Bawden, 1974).

Apprehension, uncertainty, waiting, expectation, fear of surprise, do a patient more harm than exertion (Nightingale, 1860).

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled **Uncertainty: Fathering in neonatal intensive care** submitted by **Maria Grace Golberg** in partial fulfillment of the requirements for the degree of Master of Nursing.

Margaret J Harrison

M. V. Harrison RN PhD
(Supervisor)

Arnette Anderson

A. M. Anderson RN PhD

Paul Byrne.

P. Byrne MB ChB FRCPC

Date: 99.3.16

With much love and gratitude . . .

I dedicate this work to my husband and my daughters

. . . De Setdoe

Abstract

Using an exploratory descriptive design, this study examined the experience of being the father of a prematurely born infant in neonatal intensive care. A purposive sample of eight fathers were interviewed in depth. The data were analyzed using the constant comparison technique. There was no congruency between what the men had been expecting as fathers and the events that unfolded. Faced with unfamiliar phenomena, rapidly changing events, and limited information, uncertainty emerged as central to the paternal experience. Uncertainty was an uncomfortable state of not knowing about the present and being unable to predict the future. With events perceived as beyond their capabilities, the men handed-over the care of their loved ones to the health professionals. In handing-over, the men gained time to work through their uncertainties about fathering but, at the same time, they were required to endure significant losses.

Acknowledgements

There are many individuals that I want to acknowledge and thank for their contribution to this research project. First are the men who shared their themselves during a very difficulty period in their fathering lives. I found them to be patient and kind teachers as I struggled to understand their experiences with preterm birth and fathering within the context of prematurity and the NICU.

I would like to acknowledge the contribution of my thesis committee. Thanks are extended to Margaret Harrison RN PhD, my thesis supervisor, for guiding me along the arduous path of qualitative research. I now understand the wisdom of not rushing the process - like a good soup, qualitative research needs time to simmer. I would also like to thank Arnette Anderson RN PhD for sharing her knowledge of fathering and providing encouragement during the difficult stages. Finally, my thanks to Dr. Paul Byrne who, as a father, added an important perspective to the thesis committee.

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CHAPTER I: INTRODUCTION

The parents of the prematurely born infant have long been of interest to nurse researchers. However, upon reviewing the empirical literature focussing on the experience of parents following preterm birth, an imbalance is readily apparent. Conceptualizing parenting as mothering, not fathering, most researchers have concentrated their inquiries on the maternal experience. The goal of this study was to gain understanding of the experience of being the father of a prematurely born infant in neonatal intensive care.

Rationale for Study

Nurses working in a variety of settings are in position to support the parents of prematurely born infants and to promote the development of healthy parent-infant relationships. The implementation of these nursing activities depends, in part, on a thorough understanding of the maternal and paternal experience during and following preterm birth. Over the past thirty years, many investigators have explored and described the maternal experience (Affleck & Tennen, 1991; Affleck, Tennen, & Rowe, 1990; Affleck, Tennen, & Rowe, 1991; Affleck, Tennen, Rowe, & Higgins, 1990; Blackburn & Lowen, 1986; Brady-Fryer, 1994; Brooten et al., 1988; Caplan, Mason, & Kaplan, 1965; Cronenwett, 1985; Gennaro, 1988; Miles, 1989; Parke, 1990; Wereszczak, Miles, & Holditch-Davis, 1997). However, as confirmed by many authors (Brown, Rustia, & Schappert, 1991; Casteel, 1990; Gottwald & Thurman, 1990; Holditch-Davis & Miles, 1997; Hughes, McCollum, Sheftel, & Sanchez, 1994; Kaila-Behm & Vehvilainen-Julkunen, 1997; Levy-Shiff, Hoffman, Mogilner, Levinger, & Mogilner, 1990; Miles, Funk, & Kasper, 1991; Thurman & Korteland, 1989) little is known about the paternal experience.

Purpose and Significance of the Study

My purpose in conducting this study was to gain an understanding of the experience of being the father of a prematurely born infant during neonatal hospitalization. This knowledge has significance for nurses working in neonatal intensive care settings, fathers of the prematurely born infants and premature infants.

An understanding of the nature and attributes of the paternal experience will advance neonatal nursing knowledge by providing a more balanced view of the psychosocial aspects of the premature birth within families. This knowledge is critical as neonatal nursing practice moves from a patient-centred focus to a family-centred philosophy. The findings of this study will establish a data base for future investigations on fathers and fathering. Further, because nursing practice is grounded in nursing knowledge, this study will provide guidance for interventions directed at supporting the father throughout their experience with premature birth and neonatal hospitalization.

Finally, an understanding of the complexities inherent in the father-preterm infant relationship will have significance for the premature infant because fathers are significant figures in their social environment (May, 1996; Pedersen, 1980) and are important to sex-role identification, and cognitive and psychosocial development (Lynn, 1974; May, 1996; Pruett, 1987). In addition, the paternal role in childcare is expanding (Parke, 1981) and the father may indirectly affect the development of the infant through his support of the mother (Yogman, Kindlon, & Earl, 1995).

Research Questions

The overall question guiding this inquiry was: What is it like to be the father of a premature infant in the neonatal intensive care unit (NICU)? Specifically, I sought answers to the following questions:

1. How do fathers describe the physical appearance of their premature infant? the relationship between father and infant? the neonatal intensive care setting?
2. What factors facilitate or hamper the development of the paternal-preterm infant relationship?
3. How do fathers describe interpersonal relationships with their partners, friends, parents and co-workers?
4. How do the fathers describe their paternal role in the intensive care setting?

Definition of Terms

A number of terms used in this thesis need clarification. Throughout the writing, the following pairs of words are used synonymously: wives and partners;

newborn and neonate; premature and preterm. Infants born before the 37th week of gestation, regardless of weight, are classified as premature (Tappero & Honeyfield, 1993). Fathering is the act of providing paternal care, that is, to protect or to provide for offspring. Caring is the personal response of one person to another which conveys a recognition of the other as a unique individual and a perception of the other's feelings which leads to the conscious and deliberate performance of specific actions based on the knowledge of the other's needs (Miles, Funk, & Kasper, 1992). Attachment is the emotional bond between parent and infant. Kang (1991) described attachment as "feelings of warmth or love, a sense of possession, devotion, protectiveness and concern for the infant's well-being, positive anticipation of prolonged contact, and a need for and pleasure in continuing transactions" (p. 53). The early attachment process is unidirectional that is, from parent to newborn (Kang, 1991). Finally, the NICU is a highly specialized area usually within a regional hospital, staffed and equipped to meet the needs of ill preterm and term infants.

CHAPTER II: LITERATURE REVIEW

Expectant Fathering

The male experience of pregnancy has been a relatively neglected area of investigation. Several early studies have reported that pregnancy was anxiety-producing for expectant fathers. Documented stressors were increased financially responsibility (Antle, 1975; Coleman & Coleman, 1971; Fein, 1976; Obrzut, 1976; Wapner, 1976), changing spousal relationships (Antle, 1975; Fein, 1976; Obrzut, 1976), the process of birth (Coleman & Coleman, 1971; Fein, 1976), the uncertain well-being of the fetus and newborn (Antle, 1975; Coleman & Coleman, 1971), infant caretaking (Fein, 1976; Obrzut, 1976) and remembrances of their own childhood fathering experiences (Coleman & Coleman, 1971; Fein, 1976). More recently, Glazer (1989) reported that the dominant stressors of expectant fathers were uncertainties about newborn well-being (95%), the pain that their partner would experience during childbirth (94%) and "unexpected things that might happen at birth" (90%).

Men experience pregnancy differently than women (Antle, 1975; Sherwen, 1986). May (1982b) described three phases of emotional involvement experienced by men during pregnancy: announcement, moratorium and focussing. During the announcement phase, the man's reaction to the pregnancy coincides with his readiness for impending fatherhood. His readiness is related to his desire for children, the degree of stability within the couple relationship, his perceived financial security, and his readiness for closure to the childless portion of the couple's relationship. Although those men who eagerly awaited fatherhood had positive emotional responses to confirmation of the pregnancy, ambivalence is commonly experienced (Coleman & Coleman, 1971; Glazer, 1989; Sherwen, 1986). As men lack the physiological and hormonal changes which trigger a woman's awareness of the growing fetus and impending motherhood, the moratorium phase is characterized by postponement of emotional investment and behavioral involvement in the expectant father. The expectant father's feelings toward the pregnancy begin to change as their partner becomes visibly pregnant during the 25th to 30th weeks of pregnancy. During the

focussing phase, the expectant father fixes on the reality of the pregnancy and begins the process of defining himself as a father. The progression through these three phases may influence the expectant father's adjustment to fatherhood. "It seems logical that men who begin their emotional preparation for fatherhood early by focussing on their experience of pregnancy and redefining themselves as future fathers long before birth, might adjust more easily in the weeks and months of early parenthood" (May, 1982b, p. 342).

The Process of Paternal Attachment

A father's attachment to his offspring begins during pregnancy (Cranley, 1981; Gale & Franck, 1998; Mercer, Ferketich, May, DeJoseph, & Sollid, 1988; Stainton, 1990; Weaver & Cranley, 1983) and continues in the hours (Greenberg & Morris, 1974; Mishel & Murdaugh, 1987) and months (Bowlby, 1969; Lamb, 1980) following the birth.

Researchers have examined father-to-infant attachment during pregnancy. Through tactile communication with the fetus through their partners' abdomen, expectant fathers connect physically and emotionally with unborn children (Cranley, 1981; Stainton, 1990; Weaver & Cranley, 1983). Positive relationships among a secure marital relationship, the experience of couvade symptoms and paternal attachment have been observed (Cranley, 1981; Weaver & Cranley, 1983). Mercer et al. (1988) found that paternal attachment scores were unrelated to obstetrical risk status.

Similarities in maternal (Rubin, 1984) and paternal (McDonald, 1978; Rodholm, 1981; Rodholm & Larsson, 1979; Tomlinson, Rothenberg, & Carver, 1991) behaviors in the immediate postbirth period have been reported. A progressive pattern of paternal interactional behaviors consisting of proximity, gaze and touch has been described (McDonald, 1978; Tomlinson et al., 1991). The term "engrossment" has been used to described the intense paternal preoccupation, absorption and interest in their newborn infant (Greenberg & Morris, 1974). This behavior is similar to that described for mothers (Rubin, 1984).

Several variables related to the attachment behaviors of fathers with their healthy newborns have been identified. They include a positive birth experience (Peterson, Mehl, Leiderman, 1979), infant responsiveness (Anderson, 1996a; Bowen & Miller, 1980; Greenberg & Morris, 1974; Jones, 1981; Jones & Lenz, 1986), feelings of paternal competence (Ceroni, Dorfling, & Nolte, 1995), participation in infant caretaking activities (Taubenheim, 1981) and socioeconomic status (Jones & Lenz, 1986).

Maternal attitudes and behaviors seem to influence father-healthy newborn attachment. It has been argued that a mother plays a critical role in bringing "her mate into the spotlight or keep(ing) him in the wings during expectant and new fatherhood" (Jordan, 1990, p. 14). Mothers appear to facilitate father-infant relationship development by providing informational and emotional support to their partners (Anderson, 1996b).

The subjective evaluation of the birth experience seems to influence the father-healthy newborn attachment. Peterson et al.(1979) found that the more positive the birth experience, the greater the father's attachment to his infant. Conversely, disappointment resulting from an unexpected change in birthing plans adversely affected paternal attachment.

The relationship between type of delivery and father-healthy newborn attachment has been studied. In a study designed to examine the relationship between paternal attachment and various delivery methods, Fortier (1988) reported no significance difference in paternal attachment behaviors among fathers experiencing vaginal deliveries or planned/unplanned cesarean sections. However, the small sample size and the insensitivity of the measurement tool may have contributed to this nonsignificant finding. In contrast to Fortier's findings, Toney (1983) found that fathers who experienced an unplanned cesarean birth demonstrated more attachment behaviors than fathers who experienced an uncomplicated vaginal delivery.

Findings related to paternal birth attendance are inconclusive. The father's presence in the delivery room and early/extended contact with the newborn have been

reported to facilitate the attachment process (Bowen & Miller, 1980; Fortier, 1988; Greenberg & Morris, 1974; Jones, 1981; Keller, Hildebrandt, & Richards, 1985; Peterson et al., 1979; Rodholm, 1981). However, in other investigations, these factors had no significant effect. The latter findings were limited by small samples (Pannabecker, Emde, & Austin, 1982; Toney, 1983) and unspecified instrument reliability and validity (Cronenwett & Newmark, 1974).

Correlations between early/extended physical contact and the fathering relationship in the newborn period, and later infancy, have been described. Early/extended contact is associated with favourable consequences including increased paternal confidence in infant holding (Greenberg & Morris, 1974), enhanced father-infant interaction (Jones, 1981; Keller et al., 1985; Palkovitz, 1982; Rodholm, 1981; Taubenheim, 1981), increased paternal self-esteem and positive attitudes toward the infant and the fathering role (Keller et al., 1985).

Qualitative behavioral differences between mothers and fathers were delineated over twenty years ago. Although mothers and fathers were noted to be equally involved with their newborns (Parke, 1990), the fathers engaged in less caretaking (Bailey, 1994). Sawin & Parke (1979) argued that parental role differentiation was apparent shortly after birth. Later research focussed on parental interactions with older infants during play sessions. In these studies, the fathers tended to engage in more physical play than did the mothers (Bailey, 1994; Levy-Shiff & Mogilner, 1989; Parke, 1990; Rendina & Dickerscheid, 1976; Roggman, 1992).

Emerging Fatherhood

Researchers have used qualitative methods to study the transition to fatherhood. The emerging themes are analogous to the earlier work conducted by May (1982b). Focussing on the first three weeks following birth, Henderson and Brouse (1991) outlined three phases of early fatherhood: expectations, reality and transition to mastery. During the expectations stage, the fathers develop preconceptions about fathering. The second stage highlighted the discrepancies between the father's expectations and the reality of the situation. This stage is overshadowed by feelings of

sadness, ambivalence, jealousy and exclusion. During the transition to mastery stage, the fathers resolved their dilemmas and began to focus on fathering skill development.

Based on interview data gathered during the first two months following birth, Anderson (1996a) described the central process of early fatherhood as "becoming connected" to the newborn. The process was influenced by contextual factors including maternal and/or newborn complications, spousal support, newborn behaviors and the childhood relationship between the father and his father. "Making a commitment" and "making room for the baby" were identified as subprocesses.

Following extensive interviewing with fathers from conception to one year postbirth, Jordan (1990) described a comparable process. She labelled the central process "labouring for relevance". Three subprocess were identified: "grappling with the reality of the pregnancy and child", "struggling for recognition as a parent", and "plugging away at the role-making of involved fatherhood". Jordan suggested social systems and families were influential in promoting or impeding paternal role development.

Fathers in the NICU

The experiences of fathers with prematurely born infants may not parallel the experiences of fathers with healthy, full-term infants for several reasons. First, the preterm birth will prematurely end the pregnancy and thereby disrupt the father's antenatal adjustment to fatherhood (May, 1982a). Second, because the preterm delivery is often associated with a deterioration in the health status of the expectant mother and/or the fetus, the expectant father may be excluded from the high-risk delivery. Fathers of ill newborns will not experience the intense joy and elation which commonly follows the birth of a healthy full-term newborn (Nichols, 1993). Third, physical contact with the preterm infant may be delayed. Paternal attachment behaviors and caregiving may be inhibited in the highly technical NICU environment where the nurses may act as barriers to parental participation (Brady-Fryer, 1994; Griffin, 1990; Saunders, 1994). In light of these different contextual factors, research on fathering with healthy newborn may not be applicable to fathers of premature infants.

Preterm birth is widely recognized as a stressful event for the parents. Fathers were found to experience less stress than mothers (Affleck et al., 1991; Burkhart, 1993; MacDonald, 1996; Wikander & Theorell, 1997) and the level of paternal stress decreased over time (MacDonald, 1996). The appearance of the preterm infant and alteration in the parental role were identified as the most significant stressors; environmental "sights and sounds" and staff communication were described as secondary stressors (Hughes & McCollum, 1994; MacDonald, 1996; Shaul, 1995; Wikander & Theorell, 1997). Interestingly, MacDonald (1996) found that "infant appearance" elicited less stress than "sights and sounds" of the NICU. She concluded that therapeutic interventions by hospital staff aimed at normalizing the appearance of the preterm infant may have confounded the research findings.

The parental patterns of visiting within in the NICU have been examined. Although the father was more frequently the preterm infant's first visitor (Cohen, 1995a; Levy-Shiff et al., 1990), inconsistencies in later paternal visiting patterns were apparent. Marton, Minde, and Perrotta (1981) and Jones (1982) found similar rates of maternal and paternal visiting; other researchers have reported that fathers visit less often (Brown, York, Jacobsen, Gennaro, & Brooten, 1989; Burkhart, 1993; MacDonald, 1995). Documented variables relating to family visiting patterns included marital status, socioeconomic status, personal transportation (Brown et al., 1989) and proximity to the hospital (Brown et al., 1989; Jones, 1982).

A few studies have examined the relationships among paternal visiting patterns, infant development, and post-discharge fathering behavior. Levy-Shiff and colleagues (1990) found positive relationships among the frequency of paternal visits, infant social-personal development and adaptive behavior, and paternal displays of affection, paternal perceptions of the premature infant and paternal caregiving. Further, researchers found that fathers were more involved in caretaking when their infants were considered "high risk"; the level of involvement decreased as the infant approached "normality" (Brown et al., 1991; Cohen, 1995a; Harrison, 1990). Brown and others (1991) reported that at one month following hospital discharge the fathers of

preterm infants were significantly better adjusted than their healthy-term counterparts. These researchers speculated the better adjustment may have been a reflection of optimal discharge preparation.

Interactions between fathers and their hospitalized preterm infants have been infrequently reported. Marton et al. (1981) found no difference between paternal and maternal behaviors during joint hospital visits. They concluded that the NICU environment may have a "homogenizing effect" by providing opportunities for social interaction but not for caretaking. Other investigators have found that although fathers interact with their preterm infant less than mothers, they tend to interact more during solo visits (Cohen, 1995a; Harrison & Woods, 1991; Thurman & Korteland, 1989). Similar findings were described with healthy term infants (Parke, 1990). Marton et al. (1981) reported that fathers respond more to their baby's gross motor cues than social cues.

Documented paternal behaviors included touching, caressing, holding, rocking, eye contact, smiling and vocalizing (Novak, 1990; Thurman & Korteland, 1989). Harrison and Woods (1991) found paternal age and gestational age were related to the frequency of paternal touching behaviors. Older fathers tended to touch their preterm infants more than younger fathers. Compared to more gestationally mature preterm infants, infants of less than twenty-eight weeks gestation received less paternal touching.

A few investigators have reported on the psychosocial aspects of preterm birth for the father. Documented responses included amazement, confidence, love, well-being, anxiety, fear, helplessness, protection, provision, and attachment (Casteel, 1990); difficulty sleeping, preoccupation, irritability, depression, and loss of appetite (Benfield et al., 1976). Casteel (1990) reported higher affective than cognitive responses in the hospital setting and this trend reversed following discharge. In a longitudinal study of high-risk pregnancy and the impact of premature birth, Aradine and Ferketich (1990) reported a higher rate of depression among the fathers of preterm infants than fathers of full-term infants with the difference approaching significance

($p=0.06$). Although decreasing overtime, the state anxiety scores were higher in the preterm group.

Only two studies examining the coping patterns of fathers have been reported. The identified coping strategies included positive communication and social support from the medical staff, religious faith, focussing on the infant, and spousal support (Hughes, McCollum, Sheftel et al., 1994) problem-solving and minimizing the situation (Affleck et al., 1991).

In summary, the empirical literature has sketched the outline of the paternal experience with preterm birth. Researchers have delineated paternal visiting patterns, stressors and provided meagre descriptions of father-preterm infant interactions and paternal psychological reactions to the birth of a preterm infant. More information is needed to enhance our understanding of the paternal experience and the father's developing relationship with his preterm infant.

CHAPTER III: METHODS

Two distinct approaches to the study of nursing phenomena have been described (Brink & Wood, 1989). Both the nature and the maturity of the phenomenon guide the researcher in choosing the appropriate approach (Morse & Field, 1995). In this chapter, the rationale is given for selecting the qualitative approach to explore the experience of being the father of a prematurely born infant. Next, the study methods and procedures are described. The chapter concludes with a description of the strategies used to ensure the trustworthiness of the research findings.

Research Approach

The qualitative research approach is useful when the inquiry is exploratory in nature (Lincoln & Guba, 1985) and the prevailing knowledge of the phenomenon is limited (Brink & Wood, 1989; Marshall & Rossman, 1995; Strauss & Corbin, 1990). As revealed in the literature review, there is insufficient research to provide a basis for the clinical practice of neonatal nurses who support fathers with premature infants in the NICU. The purpose of this research was to explore the experience of being the father of a prematurely born infant in neonatal intensive care. Knowledge gleaned from this study will enhance neonatal nursing practice within a family-centred model of care.

The qualitative approach is also advantageous when the context and participant's point of view are significant to the research question (Johnson & Grubbs, 1975; Lincoln & Guba, 1985; Marshall & Rossman, 1995; Morse & Field, 1995). The research question "What is it like to be the father of a premature infant in the NICU?" is best addressed by asking those at the very heart of the experience - the fathers of hospitalized premature infants. Given the congruence between the assumptions implicit in the use of this approach and needs of the inquiry, a qualitative research approach was selected.

I agree with Wolcott (1990) when he writes "one of the opportunities and challenges posed by qualitative approaches is to regard our fellow humans as people instead of subjects, and to regard ourselves as humans who conduct our research

among rather than on them" (p. 19). With that in mind, throughout this writing, the men in this study are referred to as participants. Because I viewed these participants as my teachers, I assumed the role of a student who had much to learn about the experience of being the father of a prematurely born infant.

Research Procedures

In this section, I have included descriptions of the research setting and the participant fathers and their prematurely born infants, ethical considerations, data collection and analysis. This section closes with a discussion of the trustworthiness of the research findings.

Setting

A NICU in a western Canadian city was chosen as the setting for this research project. Serving a large geographical area, the NICU provides care to both preterm and ill term infants following in-hospital birth or transfer in from outlying centres. This site was chosen for two reasons. With an admission rate exceeding 700 infants per year, the setting maximized both the intensity and the frequency with which the phenomenon of interest, fathering a premature infant, occurred. Second, I was familiar with the hospital, and the NICU, having worked as a nurse in a variety of capacities in the years before the study. I believed this association would ease entry to the setting.

Participants

Sampling in qualitative studies seeks representativeness of data rather than individuals (Sandelowski, 1986). To that end, a non-probability sampling method was used. Using purposive sampling techniques, participants were consciously selected that would contribute to the understanding of the fathering experience with premature birth.

Fathers were selected based on criteria established for both the premature infant and for the father. Infant criteria included a gestational age at birth of 27 and 37 completed weeks, an absence of congenital anomalies and a projected minimum hospitalization of two weeks. Criteria for the fathers, on the other hand, included cohabitation with the premature infant's mother, English speaking, and a willingness to share their experience.

Fathers were recruited following the admission of their premature infant to the NICU. In consultation with the nursing staff, all admissions were reviewed to identify potential participants. Initially an introductory letter, outlining the research project and inviting participation, was left at the infant's bedside. This means of indirect recruitment was ineffective. After two months, only one father, out of a potential sixteen participants, had accepted the invitation. After consultation with colleagues and the ethics review committee chair, the remaining participants were recruited directly, either by the staff nurses or myself, using the following statement of introduction to the study: "A research project on fathering is being conducted in the intensive care unit. Is that something you would be interested in hearing more about?" Only those expressing an interest were given more detailed information. A total of eight fathers were recruited from May 1996 to January 1997. With the exception of race, participants were comparable in collected demographic data to those fathers who chose not to participate. No non-caucasian fathers were recruited.

The principles outlined in the document, Ethical Guidelines for Nursing Research Involving Human Subjects (Canadian Nurses' Association, 1994), directed the ethical accountability of this inquiry. Before initiation of the study, I obtained ethical approval from the ethics review committees of the hospital and the university. Several strategies were employed to ensure adherence to the ethical principles of respect for human dignity, beneficence, and justice.

All potential participants were given information describing the nature of the study and clarification was provided as requested. I emphasized the voluntary nature of participation. Written consent was obtained before the first interview and a signed copy was given to each father (see Appendix A).

Acknowledging that the "reliving of a personal story" could be potentially an emotionally charged experience, I informed each father of his right to refuse to answer questions, to stop the interview or completely to withdraw from the study. Although emotionally expressive during the interviews, none refused to answer questions nor withdrew from the project. Although I pre-arranged for supportive counselling with an

in-hospital social worker, no fathers indicated they wanted to use this resource for support.

The benefits and risks of study participation were discussed before enrollment. Potential participants were ensured their infant's care would not be affected by their decision. I was not involved in caring for any of the premature infants whose fathers participated in this study.

The identity of the study fathers was known only to myself and the transcriber. All information was held in strict confidence. I assigned each father a code number which was used on all reports, transcriptions or field notes. All information potentially identifying the study father was altered in the written transcript and a pseudonyms are used in this report of the findings.

Only myself, the transcriber and my thesis supervisor had access to the data. All research materials were stored in a locked file cabinet with the interview cassettes, transcripts and research documentation stored separate from the consent forms. The transcripts/contextual documentation and consent forms will be maintained separately in a secure location for a minimum of seven years. The fathers were aware that, subject to ethical clearance, the data may be reanalysed in the future.

Glaser (1978) cautioned investigators against assuming any theoretical relevance of the demographic data to the research findings. In that light, I collected basic biographical information primarily to enhance my understanding of the paternal premature birth experience. Ensuring anonymity can be problematic for studies involving small samples sizes (Ford & Reutter, 1990). With that in mind, only aggregate demographic data will be described.

The eight fathers ranged in age from 27 to 39 years with a mean of 33.2 years. A cross-section of educational backgrounds and income levels were represented. Two fathers left school before completing grade 12; two completed high school. The remainder continued their studies at technical or university settings for another one to seven years. All were employed on a full-time basis with professional and nonprofessional occupations being equally represented. The family annual incomes

ranged from $20,000 to $100,000 (mean = $40,000).

At the time of the interviews, all fathers were co-habitating with the premature infant's mother. Most fathers were married; one was living in a common-law relationship. For the majority of the men in the study, the pregnancy was a "surprise". Seven of the eight pregnancies were single gestations.

The preterm birth was a direct result of pregnancy-related problems which emerged during the last trimester of the pregnancy. These health problems included pregnancy-induced hypertension, eclampsia, breech fetal position, abruptio placenta, premature rupture of maternal membranes, premature labour and fetal distress. Two of the preterm infants were delivered vaginally; the remainder were delivered by cesarean section. Five of the eight fathers attended the birth of their baby. Fatherhood was a new experience for half the study men. Only one father had previous personal experience with premature birth.

The mean gestational age of the five female and four male premature infants was 31.8 $\pm$3.81 weeks; the birth weight ranged from 760 to 2670 grams with a mean of 1585 grams. The length of stay in intensive care ranged from 16 and 105 days with an mean of 42 days. Most of the infants experienced complications associated with premature birth including respiratory distress, hypoglycemia, bronchopulmonary dysplasia, patent ductus arteriosus, and feeding difficulties.

Data Collection

Data were collected during in-depth interviewing. Spradley (1979) aptly described the focus of the qualitative interview as:

> I want to understand the world from your point of view. I want to know what you know in the way you know it. I want to understand the meaning of your experience, to walk in your shoes, to feel things as you feel them, to explain things as you explain them. Will you become my teacher and help me understand? (p. 34)

The initial interviews were open-ended in nature which helped discover the salient parameters of the fathering experience. Using broad open-ended questions, I encouraged the fathers to tell their story (see Appendix B). As appropriate in a new

area of investigation, this type of interviewing permitted flexibility in participant response with minimal researcher influence (Polit & Hungler, 1991).

As I gained a basic understanding of the fathering experience with premature birth, I focussed subsequent interviews on increasing the depth and density of my knowledge. For example, areas of special interest were explored, commonalities and differences delineated and preliminary findings verified. In consultation with my thesis supervisor, I continued to collect data until the fathers began "echoing" each other and no new information was obtained.

Over a period of nine months, 14 interviews were conducted. Six fathers were interviewed twice and two fathers, once. One father moved shortly after the first interview and was unavailable for a second interview. The infant of the second father was diagnosed with a congenital anomaly after the first interview.

As the timing of the interviews was completely under the control of the fathers, there was considerable variability in the span of time between the birth, the first interview and the second interview. For example, I interviewed one father within four days of his premature infant's birth; another was conducted ten weeks after the birth. The second interviews ranged from three to twelve weeks after the first interviews and most were conducted following discharge from the hospital.

The fathers chose the interview setting. One father elected to meet at his place of business, others chose their homes and still others preferred the hospital setting. All hospital interviews were conducted in a private room adjacent to the NICU. Care was taken to avoid disruption during the interviewing process.

While the interviews ranged in length from 45 minutes to 2.5 hours, the majority lasted approximately 90 minutes. The first interview was begun by asking fathers to describe their family constellation while I diagrammed the information in a genogram (Wright & Leahey, 1994). This approach was useful for decreasing the initial moments of awkwardness and unfamiliarity between myself and the father. It also provided an overview of family members.

Data Analysis

According to Wilson (1985) qualitative analysis is "the nonnumerical organization and interpretation of data in order to discover patterns, themes, forms and qualities" (p. 397). The analysis has been likened to the construction of a large puzzle (Morse, 1994). The border pieces are identified and the remaining pieces are sorted according to minute color distinctions. Small areas of the puzzle are then constructed and slowly the entire picture emerges. Grounded theory methods of data analysis were used and the process was aided by a qualitative data analysis software. This software created an environment which was conducive to the exploration of qualitative data while minimizing basic clerical work.

Data collection and data analysis occurred simultaneously following the procedures described by Strauss (1987) and Strauss & Corbin (1990). In the following paragraphs, I have described the method in a linear fashion. In reality, however, the analysis moved back and forth between inductive and deductive modes of thinking. Analysis involved open, axial and selective coding of the data.

The analysis began with open coding or "the process of breaking down, examining, comparing, conceptualizing and categorizing data" (Strauss & Corbin, 1990). Themes emerged as I listened to the audiotape of each interview and conducted line-by-line examination of the transcribed interview. A substance code was assigned to each emerging theme. The codes were then compared and contrasted to identify natural groupings or categories. Many categories and subcategories were identified during this phase of analysis. I compared the substantive codes and categories across interviews. In this way, subsequent interviews became more structured in nature. That is, I focussed my interviewing on the "thin" categories in an attempt to increase my understanding of the fathering experience.

Axial coding is a complex process of delineating the relationships between the categories and subcategories. Axial coding involved describing "each category in terms of the causal conditions that give rise to it, the specific dimensional location of this phenomenon . . . its properties, the context, the action/interactional strategies

used to handle, manage, respond to this phenomenon in light of the context, and the consequences of any action/interaction that is taken" (Strauss & Corbin, 1990, p. 114-115). Data reduction was accomplished by critically comparing and contrasting each category and identifying possible linkages and hierarchies between the categories (Blackburn & Lowen, 1986; Stern & Pyles, 1985; Strauss & Corbin, 1990).

Throughout the analysis, I wrote meticulous notes about the data and these proved very useful to increasing my understanding of the fathers' experience. Rereading the memos lead to further memo writing and a deeper of understanding of the linkages within and between categories.

As a novice researcher, I found learning both the intricacies of "doing" qualitative research and the complexities of the qualitative analysis program a daunting task. Enticed by the power and capabilities of the software, much time was lost as I meticulously explored many dead ends. At one point in the analysis, there were 218 categories and subcategories accompanied by reams of related memos. Reining in the analysis was accomplished only after discussions with colleagues and considerable discipline to maintain my focus on the purpose of the project. Some of my difficulties may have been avoided by using a more traditional manual method of coding (Field & Morse, 1985). The chapter will now focus on issues related to reliability and validity of the research findings.

Trustworthiness

Given that qualitative research methods were used to explore the paternal experience, I will address the issues of reliability and validity using the qualitative criteria originally proposed by Lincoln and Guba (1985) and later adapted by Sandelowski (1986). These criteria are credibility, fittingness, auditability and confirmability.

Credibility refers to the believability or truth value of the research findings. Qualitative research recognizes multiple realities and reality is viewed as dynamic and contextual (Sandelowski, 1993). My role as qualitative researcher was to ensure that the findings accurately reflected these multiple realities. Measures to support this

criterion focussed on two general areas: the researcher as instrument and data collection.

The quality of the interview data is directly related to the skill of the interviewer (May, 1991; Polit & Hungler, 1991). I practised interviewing with a male colleague and this pilot interview was carefully reviewed for the common pitfalls to interviewing identified by Morse and Field (1995).

I used a variety of techniques to establish rapport and develop trust with the fathers including: participant choice of interview setting, prolonged engagement, mindful attending to the participant, striving to maintain a nonjudgemental attitude, and reassuring the participant that there were no "right or wrong" answers (Chenitz & Swanson, 1986). Inviting fathers to describe their family constellation eased the 'sizing up' period common to first interviews.

Accuracy of the interview data is related to the interviewer's ability to establish credibility, both as a researcher and as a clinician (Field, Marck, Anderson, & McGeary, 1994; Field & Morse, 1985). As an experienced neonatal nurse, I am knowledgeable about the pathophysiology associated with premature birth and intricacies of the neonatal intensive care environment. This knowledge enhanced my sensitivity to the fathers' experience and I believe facilitated accuracy and depth of understanding.

Most fathers were interviewed on two separate occasions. This approach permitted me to review and reflect on the data gathered during the first interview and then, during the second interview, to seek elaboration or clarification as required. I compared each written narrative with the audiotapes for accuracy and completeness.

Credibility was further enhanced by member checks (Lincoln & Guba, 1985) in which data interpretations were continuously checked with the fathers for accuracy. The study findings were verified by two primary participants.

Fittingness, the second criterion of trustworthiness, refers to the applicability of the findings to other settings (Sandelowski, 1986). Marshall and Rossman (1995) suggest that the burden of demonstrating the applicability of one set of findings to

another context rests more with the investigator who would make the transfer, rather than the original investigator. I have provided detailed descriptions of the context to enable other investigators determine the applicability of these findings to other contexts.

The third criterion audibility refers to the ability of others to follow the "decision trail" used in the research (Sandelowski, 1986). Four types of documentation, as described by Rodgers and Cowles (1993) were maintained. Following each interview, I dictated contextual data. This data included specifics of the interview setting, influential incidents including distractions and interruptions, and I described the father's nonverbal behaviors in detail. Personal responses to the interview were documented in a separate journal and I included my personal feelings in order to identify biases. I made notes on my methodological and analytic decisions within the qualitative software used to analyse the interview data.

The final criterion, confirmability, refers to the meaningfulness of the findings. Sandelowski (1986) argued this criterion was achieved when auditability, truth value, and applicability are established. The detailed documentation previously described support confirmability of these findings.

In summary, this study was conducted using a qualitative approach and constant comparison analysis methods were used analyse the interview data. The study setting was a western Canadian NICU. Using purposive sampling techniques, eight fathers were recruited during their premature infant's hospitalization. The iterative process of data collection and analysis continued throughout the study. Strategies supporting the trustworthiness of the findings and the ethical conduct of the study have been described.

CHAPTER IV: FINDINGS

The central idea, event or happening in qualitative data is labelled the central phenomenon (Strauss & Corbin, 1990). In this study exploring the experience of being the father of a prematurely born infant in neonatal intensive care, the central phenomenon was uncertainty - an uncomfortable state of not knowing for sure about the present and being unable to predict the future. For the men in this study, feeling uncertain was like carrying a "big weight on your shoulders", of being on "pins and needles", of being "left in the shaded area" or being in a "highly sensitive state". Feeling uncertain was associated with other negatively toned emotions. Like undesirable companions, anxiety, fear and worry joined each man on his journey through the uncertainties of preterm birth.

In this chapter, the findings of the qualitative data analysis are presented. I begin by describing the unexpected late antenatal and perinatal events. Next, uncertainty within the context of preterm birth experience is discussed. Finally, the strategies used by the men in working through uncertainty are delineated.

Experiencing the Unexpected: Fathers and Preterm Birth

There was no congruency between what the men had been expecting during the pregnancy and the events that unfolded. In the following paragraphs, experiencing the unexpected is described. There were five components to the experience: an unexpected pregnancy-related problem; an unexpected preterm birth and an unexpected paternal birth role; an unexpected baby with complex care needs; and unexpected paternal feelings (see Figure 1).

As the pregnancy advanced, the expectant fathers were feeling comfortable and confident. From their perspective, the pregnancy was proceeding normally or as expected; their partner and unborn child were well. They were preparing for the birth and new fatherhood (see Appendix C). Their contentment, however, was disturbed during the last trimester of the pregnancy by the emergence of unexpected pregnancy-related problems. As detailed in Tables 1 and 2, these problems varied in onset, visibility and consequences. Because the pregnancy-related problems threatened the

well-being of the pregnant woman, the fetus or both, the attending physician prescribed a preterm delivery. For each of the men, the preterm delivery differed from what they had expected and prepared for antenatally. The men had expected to labour with their partners, to be fully involved in the birthing process and, following the delivery, to spend time getting acquainted with their healthy full-term baby. However, because of the pregnancy-related problems, these expectations were unfulfilled and thus, the men's experience with the unexpected birth began.

The men used antithetical terms to describe the day that their baby was born. Brad said: "When I sat down and I thought about [the day], it felt sort of like the worst day and the best day of my life all in one . . . I got a baby boy, but what a way to go!" Roger simply referred to the day of the birth as "good day, bad day." Each delivery was hastened by a medical intervention, specifically induction of labour or cesarean section. The urgency with which these medical interventions were implemented defined the men's role during the birth as either a partial participant or a non-participant. The partial participants stayed with their wives during the birth; non-participants waited anxiously outside the birthing room (see Figure 2).

Being a partial participant meant staying connected to the birth experience. Characteristically, because the well-being of the mother and infant was not seriously threatened, the prescribed course of delivery proceeded in a calm and controlled manner. There was time for the healthcare professionals to explain the situation and include the men in the birthing process. Partial participants stayed with their partners either co-labouring and supporting during the vaginal birth or sitting by their partners during the cesarean section. Being present in the birthing room meant the men could connect physically with their baby. Touching their baby helped the men grasp the reality of the unexpected birth. Holding their baby, albeit briefly, was a highly significant event particularly for those men who would wait weeks or months for the next holding opportunity. Holding helped fathers connect emotionally with their baby and, because this parenting activity was associated with typical infant caretaking practices, holding facilitated hope for infant survival.

Being a non-participant meant losing connection with the birth (see Figure 2). One expectant father, totally overwhelmed by the unexpected change in events, chose the non-participant role. Others became non-participants, not by choice, but because of a hospital policy. In this hospital, expectant fathers were not allowed in the operative delivery room when the expectant mother was given a general anesthetic. The choice of using either a regional anesthetic or general anesthetic was made by the anesthesiologist assisting with the operative delivery. In situations where the well-being of the expectant mother, the fetus or both was seriously threatened by a pregnancy-related problem, some anesthesiologists chose to administer a general anesthetic. Thus, as a result of this exclusionary policy, some anxious husbands and expectant fathers waited alone in the hall. A detailed description of the relationship between method of delivery, method of pain control and paternal presence during the birth is included in Table 3. Ross said: "Everything was going on inside there and I felt kind of distant from [the birth]." Interestingly, some men circumvented the hospital policy. Tim explained:"They have a window that is frosted on the bottom. I looked over the top so I could peek over and could see what was going on [in the birthing room]."

Compared to the partial participants, the birth stories of the non-participants were very different. Their stories were coloured by dark emotions - intense anxiety, overwhelming fear and helplessness. Because of the urgency and the intensity of the situation, non-participants were always alone without formal or informal support systems. Praying and crying were commonplace.

The first moments after the birth also differed for the non-participant fathers. Being outside the delivery room, they were unable to connect physically with their baby. The opportunity for physical intimacy was lost. Ross said: "[My baby] was being carried out in an isolette where I couldn't touch him. I couldn't kiss him. I never got to hear him cry . . . It's like something's within reach, but you get there and you can't [physically connect]."

The premature nature of the infant was unexpected. The men's descriptions of

their baby's physical attributes varied with the gestational age of the infant. An infant born at 36 weeks gestation was described as "a good-looking baby . . . not too small really." However, as the following compilation of quotations illustrates, infants of less mature gestation were perceived differently by their fathers: "really skinny," "big hands and big feet," "all red [skin color]," "very small, smaller than I expected,"and "so darn tiny."

Some men used analogies to describe their babies. Chris likened his son's appearance to "a little, old man that had just shrunk . . . with big feet and fairly big hands, small little arms . . . not much hair, no teeth, just looked like a little old geriatric." Tim compared his son's limbs to "chicken wings." For Grant, lifting his son was like "picking up a glass of water." Roger compared his son's weight to "two pounds of butter."

As a result of the unexpected change of events, the men experienced unexpected feelings. As described in the following paragraphs, these feelings were: feeling torn, a sense of loss, lack of emotional connection to their baby, being overwhelmed and a need to be strong.

During the birth and immediate postbirth period, some men felt "torn". Being torn was an intense need to be present simultaneously with both their partner and their baby. This feeling arose because, immediately following the delivery, the mother and the preterm infant were physically separated. Depending on the situation, the preterm infant was either placed on an infant warmer bed within the birthing room or taken to an adjacent room. Roger explained the source of feeling torn as related to his love for two persons: "that's always going to be there because I love them all." Being torn was not a phenomenon specifically related to preterm birth. Roger recalled similar feelings following the birth of his first child who was born at term. He said: "Like with [the first baby] . . . he was on the warming bed and crying and I wanted to go there but I needed to stay with my wife, like I was torn." Feelings of guilt sometimes accompanied feeling torn because, curious and concerned, some men gave way to their feelings and sought out their baby. Tim recalled: "I went in and saw the baby was

okay. Then I looked over at [my wife] and she was still being operated on and I felt really guilty all of a sudden, like I had abandoned her."

Feeling torn continued into the immediate postpartum period. Again, these feelings were related to the physical separation of mother and the baby and the need of the father to be in two places. Partners were transferred to either the postpartum or adult intensive care units; the preterm infant was admitted to the NICU. These areas are located in different buildings on different floors within the hospital complex. The image of a marathon runner came to my mind as the men described how they managed the separation of loved ones.

> I was going upstairs and downstairs . . . trying making sure that [my wife] was fine . . . then I'd pop downstairs quickly and saw [my baby] and I'd then go back upstairs. I'd get a little bit of a break in there for me when she had fallen asleep. And then I'd go outside and have a cigarette and have a drink and then go back upstairs, and this is how it went, basically, during the whole week. Going around and round and round . . . just seeing how everybody's doing. (Ross)

The men experienced several different types of loss as a result of the prescribed preterm birth. These losses were: loss of the expected labour and vaginal birth experience, the unwitnessed birth, the non-photographed first moments of their baby's life, missed opportunity to hold their baby, and the delayed or lost opportunities to celebrate the birth with family and friends.

The data analysis revealed a relationship between preterm birth and feelings of emotional connection to the prematurely born infant. Although the emotional connection strengthened over time for all fathers, some fathers perceived a lack of connection with their baby in the minutes and hours following the birth.

> I didn't feel a sense of bonding where he's mine . . . I don't feel bad about that, and I don't think it was a feeling in a bad way, but I think maybe just considering all that what had gone on . . . I had been isolated from everything that was going on and now my son was being carried out in somebody [else's] arms. (Ross)

As men in both the partial participant and non-participant groups expressed the same sentiment, factors other than nonattendance at the birth were examined. Further

analysis revealed a relationship between perceived preparedness for the birth and paternal attachment. In describing the evolving nature of attachment to his son, Grant clarified this relationship. Even though his wife was hospitalized for several days prior to the prescribed birth and he was a partial participant in the birth, Grant perceived lack of attachment to his son in the delivery room.

> I guess I was in kind of a shock . . . I didn't think he would be born that day. Everything was going good that night I left to work and then she called me in the morning 'My water broke, you better come up here'. Oh, wow, you know, and so, I wasn't expecting it.

There was a relationship between unexpected rapidly changing events and the men's ability to place the event in context. Some men, particularly those whose wife experienced major pregnancy-related problems and emergency cesarean section, were unable to effectively process information. Commonly, they had extreme difficulty remembering the events surrounding the birth, their first encounters with the foreign environment of the NICU, the physical attributes of their baby and interactions with NICU health professionals.

> I can't remember anything. I can't remember what I said to the nurse, what they said to me. I can't remember anything. I just remember going in there and seeing the baby and sitting there . . . looking around and leaving after awhile. (Spence)

The men did not want to talk about how they "coped" with their experience. Instead, they preferred to describe how they "dealt with" or "managed" the experience. Interestingly, although these words could be considered synonyms, the latter word suggests a stronger sense of active management of the crisis situation. In a related theme, during the preterm birth and their baby's hospitalization, the men consistently felt the need to "be strong" for their wives.

> If [my wife] is having a hard time dealing with something, I've got to be stable enough and strong enough to let her lean on me because if we both fall apart then what happens to the children? I'm just not going to let [her] see me falling apart. It's not like I'm not human and I don't have emotions. But for the benefit of [my family] I can't be falling apart. Somebody has got to have dry eyes. That is kind of the way I look at it. (Roger)

Grant expressed similar sentiments.

> I just try to remain strong. I guess cuz if I'm going to be a crying, slobbering person, how is that going to help [my wife]? It's tough for her. I knew that. But I thought if I remain quiet and strong, maybe that might help her too.

Being strong prevented several men from sharing their emotions with their wives. Roger felt he had "suppressed a lot of feelings"; Grant kept his hurt "inside." Crying provided an emotional release for the men during times of agonizing uncertainty but, in maintaining their need to "be strong", crying was private.

> [My wife] asked me why don't you cry? Why haven't you cried? I told her that I cried all the way home. (Roger)

> Sometimes I was so anxious and nervous that I didn't know what I was going to do. [In bed] I would just toss and turn. And pray. And one night I cried. I just went to the bathroom and cried. You don't know what to do. (Spence)

In summary, there was a lack of congruence between the fathers' expectations for the pregnancy and birth and the events that unfolded beginning in the third trimester. The men expected to labour with their partners, to be fully involved in the birth experience, and to experience emotional and physical intimacy with their newborn baby. However, with the emergence of pregnancy-related problems, the men experienced the unexpected. All deliveries were hastened by medical intervention; the majority of births occurred by cesarean section. At best, the men had a limited role in the birth and few men experienced a meaningful interaction with their baby at birth.

Uncertainty emerged as the central phenomenon in the experience of being the father of a prematurely born infant. This theme is described in the next section.

Uncertainty

Uncertainty arose when an event was perceived as unusual, unfamiliar or occurred unexpectedly. Within the paternal experience, there were many such events. There was a temporal dimension to uncertainty; each of the men faced an uncertain present and uncertain future. The intensity of their uncertainty varied depending on the characteristics of the triggering event. In the following paragraphs, the temporal dimensions and event characteristics are discussed.

Uncertain Present

In the present, the men faced uncertainty about the survival of their baby and, given the infant's complex care needs, about their fathering role. The men pondered two questions: Will my baby make it? How can I be a father to this baby? These aspects of an uncertain present are described in the following paragraphs and illustrated in Figure 3.

Infant Survival

Uncertainty about infant survival was triggered by the pregnancy-related problems. The men recognized the relationship between maternal and fetal well-being. Ross explained: "If she's [my pregnant wife] not doing well, then there's a good chance that the baby's not going to do well." The men's uncertainty was heightened by previous personal experience with preterm birth and statistical data provided by the healthcare professionals regarding the mortality rates for infants born prematurely.

Following the preterm birth and transfer of the infant to the NICU, several factors maintained uncertainty about infant survival. The men quickly learned that there was a direct relationship among the number of healthcare professionals attending to a preterm infant, the amount of equipment supporting an infant, and infant well-being. More healthcare professionals and more equipment were equated with illness and the possibility that "the baby might not make it."

> From the beginning I thought there was a chance that he might die. More than 50 percent. Not from anything anyone told me or didn't tell me, that's what I thought. He was born so premature and being under stress. You could hear his heart beat go from 140 to whatever, it sounded like it was 50 per minute. Within a couple of seconds it went right down to nothing. The really awful time was the first night . . . he had to be hooked up to oxygen and [healthcare professionals] forced it into his lungs. He had the IV and all the wires and oxygen. And that was kind of scary to see all that. I didn't believe that he had a really good chance. (Tim)

Until the men "got used to them," "beeping" equipment, especially the cardiac monitors, aroused uncertainty. "Setbacks" in the infant's well-being similarly reinforced their uncertainty about survival. It is noteworthy that compared to

intravenous therapy using veins in the infant's limbs, therapy using scalp veins triggered more uncertainty about survival.

Uncertainty about survival influenced the process of connecting emotionally to the preterm baby.

> I didn't want to get attached at all. I just thought I can't. I wanted to go down [to the NICU] and see him and everything but I didn't really want to. I was talking to my mom on the phone and I was telling her that I really don't want to get too attached to him. I don't think he's going to make it. I thought I'm just setting myself up here to be really crushed, I guess. (Tim)

The men's uncertainty about infant survival abated with the passage of time. Facilitative factors were signs of infant well-being [spontaneous movement, crying, pink skin tones, normal functioning of all body systems], normal laboratory test results, a reduction in the amount of equipment supporting the infant, movement of the infant to less acute areas within the NICU and the initiation of usual infant caretaking practices such as bottle feeding and infant holding.

Fathering Role

All men were uncertain about their fathering selves. As a consequence of the early birth, the men were unable to assume their expected paternal role and, given the complex needs of their premature baby, they were unsure about their role within the NICU. Several obstacles hampered the men's ability to father. At best, the men felt like part-time fathers.

> People ask, what's it like being a dad? Well, I don't know. I'm just kind of a part-timer. [I won't feel like a dad] til he's actually home and, and then he's just yours. Then you have to look after him, there's nobody else here. (Chris)

Obstacles to assuming the fathering role were associated with the premature infant, the father, and the NICU. Each of these aspects will be described in the following paragraphs.

There was a relationship among fathers and gestational age, infant well-being and the infant's tolerance for handling. The more immature and the more ill the infant, the lower the infant's tolerance for handing. Chris explained: "You shouldn't be picking these guys [babies] up and playing with them. I mean that they're too little to

handle it." Gestational age and well-being were also related to the preterm infant's capabilities. Ill preterm infants are incapable of performing behaviors typical of healthy full-term infants. For example, preterm infants of less than 34 weeks gestation can not suck effectively. As a result, these infants receive enteral nourishment through a feeding tube. For the men in this study, defining themselves as a father meant physical involvement with their baby such as holding the baby and participating in bottle feeding. Thus, development of a fathering role within the NICU was hampered by the characteristics of the preterm infant and the type of care that they required.

Several obstacles associated with the individual fathers also hindered fathering. Financial need and employment responsibilities limited the time that the man had available for visiting their hospitalized baby.

> Lack of money [has] made it tough. Big time . . . because if it weren't for that then I could say no I ain't working any more than eight hours a day . . . as much as I want [the money], I want time with my family more. However, we gotta get outta debt, so that's a big part of it. (Chris)

Visiting was hampered by additional factors. For the fathers of the more gestationally immature infants, many weeks passed before they were involved in infant caretaking. They became bored during the prolonged periods of "just looking" at their baby. Chris said: "I mean, after sitting there for ten minutes, its OH MAN! I'm bored with this. I mean, it's nice to see him, yeah, but I mean after awhile, you know." For some fathers, boredom and decreasing uncertainty about infant survival were associated with less frequent visiting.

> I come up a few days a week, but not every day . . . at first you want to come up to see him and make sure he's doing okay. But after awhile you felt, well, he's doing good. He's just small. [My wife] came up every day. But . . . I [took] a couple of days off here and there and work on cleaning up in the yard or work in the house. (Chris)

Visiting was limited to weekends for men who lived in distant rural areas. The presence of other children within the home posed special difficulties. Because of the problems inherent in arranging adequate childcare and the decision to place priority on maternal visiting, the men often stayed home taking care of the other children. Joint

parental visitations were rare events.

Fathering was also hampered by a fear of harming the baby. The father's fears were reinforced and their desires for physical contact with the infant were significantly dampened by warnings from the nurses such as "don't rub [your baby] because it irritates him." As hospital infection control practices mandated that all visitors wash their hands and wear a gown over their clothes, the men quickly learned that their premature baby needed to be protected from infection. Some men declined opportunities to hold their baby skin to skin on their chest for fear of passing along an infection. Tim explained: "I don't feel really clean enough to be holding him like that, with chest hair . . . why would I want to hold the baby so close to me? He could catch germs or something like that." Some men feared that the act of holding their baby's fragile body would cause harm. Roger said: "He is so small and I want to hold him so he doesn't fall and cuddle him but how much pressure can I put on him? Like he is so tiny like, how tight can you hold him?" For most men, fear of harming the infant and a lack of confidence in their fathering abilities lead to avoidance of caretaking.

> It would have been nice to be doing more [for my baby] for sure, but lack of experience in myself, nervousness, . . . the last thing I want to do is poke him or drop something on him, or drop him, God forbid. (Roger)

Several factors specific to the NICU hampered fathering. These factors, described in the following section, were: visiting policy, healthcare professionals working in the NICU, excessive environmental noise, failure to meet the father's comfort needs, and equipment supporting the preterm infant.

Entry into the NICU was controlled by a visiting policy. A sign posted outside the NICU indicated parental visiting was allowed "24 hours a day, seven days a week". However, in reality, the men could not be in the NICU during morning and afternoon physician rounds, nurses' shift change, and, as deemed by the nursing staff, during periods of increased workload. Examples of the latter were admissions to the unit, medical and surgical procedures and an acute deterioration in an infant's well-being.

These limitations in the time available for visiting decreased the fathers' opportunities to be with their babies.

Some men felt incompetent in their fathering when they observed the staff nurses expertly and efficiently caring for their baby. Initially in comparing themselves to the nursing staff, fathers believed that their baby was better cared for by health professionals.

> [My baby]'s in good hands. Better than all we can do for him because they got doctors and nurses. And if something goes wrong, they're there. And they know what to look for. Whereas, we're always wondering [if the baby is okay]. (Chris)

As the infants matured and the men assumed more caretaking responsibilities, they were keenly aware of the watchful eyes of the NICU nurses. For some, fathering in the NICU was like "being in a fish bowl". Ross compared fathering in the NICU to breastfeeding in public and indicated that it became easier with experience.

> It's like if you're used to breast feeding in private, it would be very difficult for you to get out and breastfeed in public. But once you get comfortable with it, you can concentrate more on the actual breast feeding and being more comfortable with it.

Excessive environmental noise hampered fathering. The men found the constant "bonging" of equipment alarms, the endless ringing of the telephones, the incessant crying of infants, and the loud conversations among the healthcare professionals overwhelming. Some men limited the duration and frequency of their visits specifically because of the noise. Chris said: "Some days especially, there's kids wailing and monitors banging and you're in there for half an hour, [and] your head's going [gestures banging his hand on his head]. Oh, that's enough!" Relaxing and enjoying the physical intimacy of holding the baby was difficult for fathers within the noisy environment. Some men avoided the noise by rearranging their schedules and visiting their baby during the night "when things are quiet" and "there usually isn't too much happening." It wasn't uncommon for a father to visit after midnight.

Lack of physical comfort was also problematic. The men reserved the available chairs for their wives; fathers often stood at the bedside during the entire visit. Two

fathers recalled the physical discomfort of "bending over the isolette".

> It's nice to be able to feed them, but it's [uncomfortable] especially for me. You're a little taller and you hunch over . . . after a while your back's just killing you. [The isolette] is too low. (Chris)

Fathering was also hampered by the technology common in the modern NICU. For the majority of the men, the NICU was a novel experience and they were intimated by the unfamiliar equipment. Until preterm infants are able maintain their body temperature without external support, they remain in the thermocontrolled environment of an incubator. For fathers of smaller, more immature infants, this period lasted for weeks to months. The men saw their baby contained within the plexiglass walls of the incubator as "on display or "locked away." The "little, glass bubble" was seen as a "wall" separating father and baby. In the following quote, Roger describes the difficulty that he experienced trying to connect with his baby while in the isolette.

> When he is awake [and] is looking at me, I have to talk through the porthole and I can't see him, or I see very little of him. So I say something and I go over here to look [and he's looking at the porthole].

Physical contact with the infant could only be achieved by "opening the portholes" to the incubator and, as the men quickly learned, this activity required some dexterity and practice and "sometimes my hands don't work so good." Infant caretaking was difficult to manage through the portholes of the isolette. Chris explained:

> Once he is bigger [and] in a bassinet, you can pick him up. You can hold him. You can feed him and change him, and stuff like that. Whereas in an isolette, it's hard to do. You can't pick him up and hold him.

Each premature infant was attached to "hoses and tubes." Managing this equipment while holding the infant proved to be a daunting experience for some men. Clearly, it was difficult to relax and enjoy the physical intimacy. Roger recalled the first time he held his baby:

> [The nurse] gives [the baby] to me and there's these lines and tubes and the one was the oxygen . . . I couldn't really see where the tube went . . . is [the baby] sitting on it? Am I sitting on it? Is it pinched between the chair and my leg? Is there an alarm that is going to go off? . . . [what if] the tubes catch on something [and] rip [the tape] off his little face . . . There are so many things

that can get caught on, man. SHEESH!

When survival of the preterm infant was assured and the men began to assume a beginning paternal role within the NICU, uncertainty about the present abated. With the passage of time, uncertainties about the future emerged.

Uncertain Future

As the men looked to the future, they were uncertain about their baby's future quality of life and about the quality of their fathering. The men questioned: Is my baby going to be okay? Given the special needs of my prematurely born baby, can I be a good father? These aspects of an uncertain future are described in the following paragraphs.

Quality of the Infant's Life

Uncertainty about their baby's future quality of life emerged during the infant's convalescence. The integrity of the brain was seen as of critical importance and any tests ordered by the physician to assess brain functioning in the infant triggered the father's concern about the possibilities of brain abnormalities. The father's concern about the normality of the infant's brain was also triggered when the infant's behaviour was incongruent with his expectations for typical infant behaviour. Fathers' expectations of infant behavior were grounded in their past experiences with babies and in their observations of the other babies in the NICU. The following quotations describe behaviour that was most worrisome to the men.

> I don't think I saw him awake for a week. Maybe I saw his eyes open and roll back and close. The second week was about the same, not much. I never really saw him move much of anything. He just lay there, very quiet. There was no real life there. (Spence)

> He is kinda lethargic. I don't expect him to get up and dance for us or anything . . . some of the babies that are in there are just wiggling constantly and crying and complaining . . . that's kinda what I expected of a baby. (Tim)

> He still wasn't crying and that worried me . . . he wouldn't cry for food. I hear other babies that were like [smaller than my baby] screamin' their lungs out and I go, "Well, I want to hear that from this one." (Spence)

Uncertainty about their baby's future quality of life continued after discharge

from hospital. The men were hypervigilant for any signs that suggested abnormal development in their infant and they recognized that their uncertainty would only be resolved with the passage of time.

> [Compared to my other babies born at term gestation] I'll be watching more closely this baby. Like is that normal? Is that right? Do you think there is a problem? But I think that should pass, hopefully with time and hopefully there'll be no [pause], hopefully he'll be a healthy baby. (Spence)

> Not saying that [my baby] hasn't experienced some kind of disability because of what he's gone through, because we still don't know. We won't know 'til he tries to walk or tries to talk if really there were any long term effects on him . . . . I do and I don't [worry about future]. I can't say it bothers me, that I sit and think about it and it bothers me, but just sometimes, you know. (Ross)

Quality of Fathering

Awareness that the healthcare professionals were planning for the preterm infant's discharge from the NICU precipitated feelings of uncertainty in the men about the quality of their fathering. As they left the hospital, the men were "happy" and "glad" to be finally leaving the NICU but, because discharge meant assuming full-time responsibility for the well-being of their baby, they also experienced significant fear and anxiety. Their uncertainty centred more on keeping their baby safe from harm and less on meeting their baby's physical needs for care.

> [At home] . . . Will we be able to handle it if something goes wrong? What will go wrong, or what could go wrong? You know, there's so many things going through your head that it's hard to put a finger on it really. Just a lot of things to think about and worry about. (Chris)

> I feel like . . . give me enough diaper changes and I can do it just as fast and just as efficient [as the nurse can]. It's the life critical things. Things . . . [like] if he really stops breathing. [The health professionals] would know what to do. I'm not a doctor but I kind of feel like I should be able to do something. (Tim)

> I was feeding him at the hospital [and] he was having a brady [slowing of heart rate] and I gave him to the nurse cause I didn't know what the hell to do. It was scarier than hell. Like I didn't want to feed him after that cause I didn't know what to do, well, I knew what to do but I didn't have the confidence that I would be able to stimulate him. Of course the nurse is going to have more experience to do what's necessary and going to be able to see the signs. Like I

> didn't see the signs quick enough. He just started coughing and then I realized that he was in trouble . . . That's what scared the hell out of me. (Roger)

Interestingly, for some men, nighttime was the most anxiety producing period. As the father slept, would the baby stop breathing? Would the father wake up when the baby cried at night?

Although uncertainty about their fathering abilities was common among the men, there was relationship between infant caretaking in the NICU and the degree of uncertainty experienced. The more involved the men were in meeting their baby's physical needs, the less uncertainty they experienced as full-time fathers when the infant was at home. Opportunities to "room-in" with their baby before discharge helped the men "get used to it" and, as a result, somewhat lessened their uncertainty. The men who were less involved in infant care experienced intense uncertainty as full-time fathers. The most poignant example was provided by Roger. Sometimes his son experienced difficulty coordinating the complex tasks involved with bottle feeding and, as result, experienced apnea [cessation of breathing] and bradycardia [slowing of heart rate]. In the hospital, with the assistance of the readily available nursing staff, Roger had learned to manage these episodes. However, after discharge without the support of the "good hands" of the nurses, Roger avoided feeding his son because these episodes frightened him.

> What happens IF that [stimulation] doesn't work? That's what I want to know. I mean, anybody can sit him up and rub his back and blow on his face, or . . . stimulate him. What if it doesn't work, then what? How long do you go before you do brain damage?

During the interview, I explored how he thought he planned to manage such an episode. He said:

> CPR I think . . . one of the nurses mentioned . . . do you know how to use CPR? Just before we brought him home actually. And somehow [my wife] got a hold of a sheet either from the hospital or from somewhere. I read it . . . but reading it and doing it are two different things, so I was going to practice on one of the dolls actually. I don't know how hard to push, for goodness sakes. I could crack his breastbone or something.

This must have been an extremely difficult situation for a father. Infant feeding is an

important parental task. In addition to meeting the infant's nutritional needs, feeding is an opportunity for mutual interaction, a time of relationship building between the father and the infant. In Roger's situation, the task of feeding the baby was potentially life-threatening situation which he felt helpless to manage given his lack of knowledge and skill about infant cardiopulmonary resuscitation. As a result, Roger avoided feeding his baby and thus, missed opportunities for interacting and emotionally connecting with his son.

Predictors of the Intensity of Uncertainty

The intensity of uncertainty experienced in response to an event varied among the men in this study. This variability was attributed to specific characteristics of the event: predictability of outcome, familiarity of an event, quality of related information, and pace of change. The more an event was perceived as unpredictable, unfamiliar, unknown, and changing rapidly, the more intense were the feelings of uncertainty. These characteristics are described below.

Predictability of the Outcome

The men's experience was fraught with unpredictability. Pregnancy was an unpredictable state because there were no guarantees that the future would be congruent with the men's expectations. Soon after the pregnancy was confirmed, the expectant fathers wondered about the physical normality of their baby. Later, with the emergence of pregnancy-related problems, concern for the well-being of their wife arose. Also, recognizing the symbiotic relationship between the mother and the unborn child, the men wondered about the well-being of their baby. With the medically determined preterm birth, doubt about the impact on their baby of being "born too soon" emerged. Would their baby suffer any long term effects?

Thus, as a result of their experience with pregnancy, pregnancy-related problems and preterm birth, all men faced an unpredictable future. There was a relationship between unpredictability and uncertainty. The more unpredictable the situation, the more uncertainty was experienced.

Familiarity of an Event

Little within the preterm birth experience was familiar. Most of the men were unfamiliar with pregnancy-related problems, premature infants, and the neonatal intensive care environment. Several of the men were first-time fathers and, therefore, also lacked experience with pregnancy, labour and delivery, newborn infants and fatherhood. Often the birth occurred before completion of the pregnant couple's scheduled prenatal classes. Chris said: "If you'd went to the prenatal class you'd [have] a better idea of what's coming on. What should be happening and what is happening." Most men were unfamiliar with the typical behaviour of a preterm infant. The men expected babies to be alert, crying, and physically active. In contrast, their preterm baby was seldom awake, seldom cried and seldom moved. Often, the baby's seemingly lifeless state was seen as a sign of a neurologic abnormality. The complex life-supporting technology common to the modern neonatal intensive care setting was foreign to the majority of men.

Throughout the interviews, the men described an endless layering of unfamiliar potential and actual infant health problems. In the following passage, Roger described his unfamiliarity with apnea of prematurity, a common problem among prematurely born infants.

> I don't know if [apneic episodes are] normal for premature babies . . . I guess if that's normal, that's normal . [Nurses] work with [apneic infants] every day. I work with a welder that uses 220 volts and [the nurses] are not sure if [they're] going to get electrocuted maybe, but I do. I know what to do, but you don't. See. So [prematurity] is completely a new thing for us.

Warned of the possibility of an early birth, some men sought information about prematurity during the prebirth period. This newly gained knowledge often created additional uncertainty because the men were exposed to a wider range of potential problems than they had previously recognized. In addition, during visits to their baby in the NICU, all men observed and overheard about other potential health problems. This uncovering of potential problems is illustrated in the following passages.

We were worried about [immature lungs] cause the baby was a month early . .

> . Everyone says that their lungs aren't developed very good until they're closer to their date and when it's a month ahead there's still a lot of mucous in their lungs, and they're forming still. (Kurt)

> [At birth] you look at our baby and he looks okay. I mean, I hadn't really thought of: Will his kidneys work? Will his heart be okay? You hear all this later, once you're in the [NICU]. [Like] this one little guy's kidneys shut down and they had to pull the plug. [Or another] little guy's heart wasn't developed or his valves were backwards. But at the time [of my baby's birth] I hadn't thought of any of that kind of stuff. (Chris)

Similar to outcome unpredictability, lack of familiarity was related to uncertainty. For all the men, unfamiliarity generated feelings of uncertainty.

Quality of Information

Lack of information, contradictory information or both increased the uncertainty experienced by fathers. A lack of information occurred when information was misunderstood, unknown, or unshared. Words, commonly used by the NICU healthcare professionals, like apnea, bradycardia, oxygen saturation, and intraventricular hemorrhage were foreign concepts that inhibited the men's understanding of events.

When uncertain, all men were keenly attentive to the events occurring around them, particularly conversations among the knowledgeable healthcare professionals. Sometimes the men misinterpreted these conversations and incorrectly presumed that the healthcare professionals possessed information about their loved ones but were withholding that information. Spence said: "The biggest problems were that you would hear things, there would be nurses talking, [and] it seems like they know more than they are telling us or they think there is something wrong with our baby."

The analysis revealed a temporal dimension to the availability of information. Often, information was unknown because it was unavailable. Sometimes there had been insufficient time for a complete diagnostic assessment of a health problem or, because assessment of a health problem involved complex laboratory and radiographic tests, there was a delay in test results. Waiting for test results was anxiety producing.

> I was on pins and needles for these test results . . . I was extremely anxious

> and disturbed and [I told the doctor] if there was anything that he could do to get me the test results back as quickly as possible, I would really appreciate that.

As each day passed without a diagnosis, feelings of uncertainty intensified and trust in the health professionals' abilities eroded.

> Maybe [the doctors] aren't doing all the tests that they could? There's something wrong. It seemed like there was something but the [doctors] are not finding it. There's nothing happening. [I wonder] if we should take our baby somewhere else? Is there a better place in Toronto, or John Hopkins? (Spence)

A lack of access to the neonatologist added to the men's uncertainty. The neonatologist was viewed as the ultimate source of information about their baby's well-being. During periods of intense uncertainty, the men "wanted to speak to the doctor," not to other healthcare professionals. In the study setting, the neonatologist was available Monday through Friday between 1400 and 1500 except during statutory holidays. Because prearranged meetings were cancelled during periods of increased physician workload, some fathers were unable to meet with the neonatologist as soon as they wished.

Institutional practices also contributed to the inadequate flow of information. There were rules restricting the men's movement within the hospital. An example is the hospital policy that excludes the father from the delivery room when the mother is given a general anesthetic. In the following quote, Ross recalled his feelings of uncertainty as he stood in the hall outside the birthing room.

> That period of time was really hard. You knew there was a problem still but you didn't know what . . . is the baby going to be okay? Is [my wife] going to be okay? That was really, really, really hard. Lots of unknowns.

As previously described, another practice that prevented the men from gathering information was the regulation of NICU visiting times. Limitations on paternal visiting were particularly troublesome in the hours following the unexpected preterm birth, especially for the non-participant fathers. Ross recalled his feelings of uncertainty about the well-being of his baby:

> I said [to the delivery room staff] "Can I go see the baby?" [The staff] phoned

> downstairs. [The answer was] "no." It got to be quite awhile. Hours and hours and hours, and I knew something wasn't right because they told me I couldn't go downstairs, but they wouldn't tell me why.

The men also perceived a lack of information when the data possessed by the healthcare professionals was not shared. In the following passage, Kurt described an interaction with his family doctor and an ultrasound technician. This interaction occurred during a previous pregnancy.

> We were pregnant but [the fetal] heart stopped somewhere along the line. When we went in to have our ultrasound, they let us see the baby and stuff but figured we wouldn't know [about the heart]. But we [did] know cause we'd read enough by then to figure things out on our own. We figured something's not quite right here cause he wouldn't show us the heartbeat or anything like that. He said, "Oh, well, [the heart's] fine. It's kinda hard to find." And I thought, oh no, we already read about all this. It's not hard to find. It's quite easy to see and to find. So we kind of wondered . . . [My wife] went and talked to her doctor after that and he said it would take a few days [to get the results] . . . he already knew that there was no heartbeat. And we already knew, too. So we worried all weekend.

The father indicated later in the interview that the ultrasound technician was required by this physician to withhold information from patients.

Uncertainty was created when information was contradictory between people or between past and present experiences. Sometimes individual physicians disagreed about medical management of a health problems; sometimes lay opinion differed from medical opinion. These two aspects of contradictory information are illustrated in the following quote. Untoward findings during a routine fetal ultrasound prompted Chris to question the medical management of his wife's hypertension, the adverse effects of anti-hypertensive medication on his unborn baby and the quality of care being received by his loved ones.

> One doctor does this and one does that. And nobody quite gets the full picture of it as good as they could. When we asked "Wouldn't this medication she's on affect [the baby] at all?" [The doctor] checked and then they noticed that. YEAH [the medication could be affecting the baby]. I mean this [drug] goes right through the placenta, too, so he wouldn't be able to sustain a high heart rate 'cause he's medicated as much as [my wife] was. And she was on quite a heavy dose then. So that made us feel a bit better. But why hadn't anybody

noticed this before?

Another example of contradictory information was described by Spence. In the following quote, the opinions of the obstetrician and his wife are contradictory. According to Spence, an induction of labour was prescribed by the obstetrician because of concern about safely delivering the fetus in a breech position. Based on fetal ultrasound findings, the obstetrician felt "[your wife] is close enough to term." Spence's wife, on the other hand, believed "it'll be like four weeks [early] if you take [the baby] now." Given that Spence was not expecting the baby to be preterm, he seems to have accepted the medical opinion. However, a physical examination following birth confirmed the infant's immature gestational age. As a result, in Spence's mind, there was "question about the actual term of the baby" .

In trying to understand the events unfolding around them, the men were continually gathering information. When the present contradicted past experiences, uncertainty resulted. Constantly comparing among his four birth experiences, Spence became increasingly sensitive to environmental cues which suggested this birth was "different" from the other births. Uncertainty arose when he noticed:

> There were lots of people [in the delivery room]. This was the first time we had to have a specialist there. Normally it was just the family doctor . . . and then there was two or three other people over by the place where they take the baby after it's born and then there were two or three other people all around and extra nurses and I'm going like this isn't [right].

The father's assessment of the infant's well-being was based primarily on external attributes of their baby. These attributes included spontaneous movement, crying, and pink skin tones. Uncertainty arose when the healthcare professional's assessment of infant well-being contradicted the father's assessment. At birth, because of newborn apnea, Spence's baby needed resuscitation. After the infant had recovered, Spence's inspection of his baby suggested well-being. However, the health professional's evaluation of infant well-being included the need to determine the etiology of the infant's apnea. Spence said:

Everything seems to be okay but then [healthcare professionals] wrap [the baby]

> up and they say they're going to take him down to the neonatal intensive care unit. [My wife] gets to hold him for a second or two and then the baby's gone and we are going WHOA, WHAT'S WRONG, IS THERE SOMETHING WRONG?

Pace of Change

The pace at which change occurred influenced the men's ability to comprehend the events unfolding around them. This factor was most influential during the emergence of the pregnancy-related problems, the preterm birth and the immediate postbirth period.

The pace of change depended on the seriousness of the threat posed to the pregnant woman, the fetus or both by the pregnancy-related problem. When problems did not pose an immediate threat, change occurred in a slow and controlled manner. There was sufficient time and many opportunities, particularly when the pregnant woman was hospitalized for a period of time before the medically determined birth, for the healthcare professionals to explain to the men about the pregnancy-related problem, prematurity and prescribed treatments. There were also opportunities to seek information from other sources including the library, local healthcare professionals, family and friends. Kurt said: "We were asking questions to anyone we could and everyone we could, all the time. Anything we could ask, or we thought of, we'd ask." Knowledge gave the men a sense of control. In the following passage, Kurt, having learned of the likelihood of a preterm delivery, described his need for information.

> I don't like going into something and . . . [feeling] I'm not even prepared . . . or didn't even know about . . . That's why we tried reading what we could ahead of time, and doing whatever we could ahead of time. Anything we could figure out was that much better to us. It made us feel more comfortable.

Clearly, when change occurred slowly, the men has the opportunity to obtain detailed knowledge and understanding. Following premature rupture of membranes, Roger's wife was hospitalized on bedrest for two weeks before the planned delivery of their baby. Roger explained the process of selecting the specific day for the birth of his baby:

> [The doctors] were trying to hang on as long as possible to give [my baby] a

> chance to grow a little bit more, gain some weight, get the steroids and the vitamin K for the lungs to mature. There was a little confusion whether it should be today or next week as far as the actual operation time. [The doctors thought] maybe we'll hang on a little bit more but they did another ultrasound and [the amniotic fluid level] was down to one or something that was getting very dangerous. That was the basis of [picking that day for the cesarean section].

On the other hand, when pregnancy-related problems threatened the life the pregnant woman, the fetus or both, change occurred quickly. Ross recalled: "We were probably here an hour [in the delivery area] and she was on the operating table and they had to give her a Caesarean and get the baby out. It was fast." The energy of all available healthcare professionals was directed at optimizing the well-being of the maternal-fetal dyad. There were insufficient personnel and insufficient time for sharing information and thus, the expectant father was lost in a tornado of rapidly changing events.

The pace of change was related to the men's perceived readiness for the premature birth. When events unfolded in a slow and controlled manner, the men described themselves as "as ready as I'll ever be" for the preterm birth. Conversely, rapidly changing events were associated with intense feelings of "I'm not ready." These fathers had not completed the process of "getting ready" for the fatherhood (see Appendix C). These aspects are illustrated in the following passages.

> We're not ready for this . . . we didn't have the baby's room made up . . . we had a crib and stuff like that, but there were certain things we wanted to do to the baby's room. We were talking about painting and doing all this stuff which we were going to do over the next six weeks. (Ross)

> There was no preparation for [the premature birth]. It's different when [your wife] starts getting into labor. You're more prepared for it. You know what's happening. Like we shouldn't be having that kid for another two months, two and a half months sort of thing . . . All of a sudden, [it's] congratulations . . . It's just like going to Sears and finding out you won the door prize. (Chris)

In summary, the central phenomenon of the paternal experience was uncertainty. All men experienced an uncertain present and future. In the present were uncertainties about the survival of their baby and about their fathering role. Overtime,

these uncertainties gave way to uncertainties about the future, specifically the infant's quality of life and the quality of fathering. The intensity of uncertainty varied depending on outcome predictability, event familiarity, quality of related information, and pace of change.

Managing the Unexpected: Handing-Over

All men managed the uncertainty of unfamiliar, unknown or unexpectedly occurring situations by handing-over care of their loved ones to the healthcare professionals. This strategy was consistent with the traditional role of father as protector. The process of handing-over and the outcomes of this protective strategy are now described.

The Process of Handing-Over

In the process of handing-over, the initial step was conscious recognition of the pregnancy-related problems (see Table 1). The next step was appraisal of the problem which involved assessment of various characteristics of the problem (see Table 2). The timing and urgency to handing-over the care of loved ones to the health care professionals depended on whether the father's appraisal of events indicated that there was a minor problem or a major problem. The difference between minor and major problems and the relationship between the father's appraisal of the severity of the problem and the process of handing-over are described in the following paragraphs.

Characteristically, minor pregnancy-related problems emerged gradually during the latter weeks of the third trimester. Some problems, hypertension and breech positioning for example, were imperceptible to the expectant fathers; others, like lack of fetal movement, were perceptible. Most frequently, the men's awareness that "something's wrong" occurred during routine monitoring of the pregnancy. Upon learning of the problem, wives became somewhat anxious but were not fearful for themselves or for their unborn child. Each man relied and trusted their wife's intuitions. Spence said: "[if my wife] really thought or had an instinct that there was something wrong she would be pushing the health care system." The men were comforted by the close monitoring of the pregnancy-related problem by the physician

and were confident in the physician's knowledge and expertise. Being able to identify a logical explanation for the problem was a significant factor in the men's decision to appraise the problem as minor. The following quotations illustrate this point. Using his past pregnancy experiences as the standard for comparison, Spence perceived differences in fetal movement during this pregnancy.

> This baby never really kicked a lot even throughout the term . . . like the other babies, I could watch [my wife's] stomach and you'd see kicks and boots. This baby was very, very, very still in comparison . . . [as a result] it was always in the back of [my] mind, why is this kid not kickin?

Finding a logical explanation for the lack of fetal movement significantly reduced Spence's anxiety and worry. Upon learning that his baby was in a breech position within the womb, he surmised a relationship between fetal position and fetal movement. "Once we found out that [the baby] was breech [I thought] well, that's probably it, his feet are up, he is not in a position where he can move as much." In the presence of minor problems, the men experienced no urgency to hand-over.

In contrast to minor pregnancy-related problems, major problems were characterized by the sudden and unexpected onset of ominous symptoms that "something's very, very wrong." Given the symptoms, the men immediately believed that the lives of their pregnant partner, their unborn child or both were being seriously threatened. The following quotes are illustrative of the men's experience with major problems.

> [My wife] walked up the stairs, and went to the bathroom. . . . She just felt a little bit nauseous. . . . and about five, ten seconds later she yelled for me and I came in there and there was blood everywhere. And I just like, WHAT'S GOING ON? (Ross)

> I got a phone call at work and [my wife] was on the phone in tears, hollering for me to come home now. . . . I don't know what the hell was happening and [my wife] didn't give me any details, I just hung up the phone and left work. And then when I got home . . . there was some serious [vaginal] discharge, she figured she was losing the baby. (Roger)

> It was about 5:30 in the morning . . . I heard her yell out and she had a convulsion on the couch. . . . she had to be sick so I got her into the bathroom and then she had another convulsion in there and actually she had another one

> after that in the bathroom . . . it was horrible . . . I thought she was going to die. I never saw anybody have a seizure before. (Brad)

Fearing the worst, these men sought immediate medical attention for their pregnant partners. Some called for the paramedics; others chose to drive to the hospital, a decision that endangered lives.

> There was blood everywhere. I made a decision not to call an ambulance. I don't know why, but I just got her in the car. And luckily that time of night there wasn't a lot of traffic because I was being safe, but I probably ran a good three-quarters of the stop lights, and everything else, because I didn't know what was going on. (Ross)

> I never wished for V-8 in my life like I did that day. And a four-lane highway . . . when we passed [a car] . . . there was an oncoming car and we were real close to it. But I was committed to it and none of these idiots (would pull over). I am flashing my lights at this other idiot so that he can see me coming and he pulls over at the last second. I almost take out the front end of this quarter ton truck and poor (wife) is just losing it at this point. (Roger)

The men's appraisal of a major problem was confirmed during the assessment by healthcare professionals working in the hospital. Some problems, premature rupture of the maternal membranes for example, were treated conservatively with bedrest and careful observation of the pregnancy but when the risks of continuing the pregnancy outweighed the benefits, a preterm birth was prescribed, either induction of labour or cesarean section. For other problems, the assessment confirmed the immediacy of the serious threat to the pregnant woman, the fetus or both. As a result, an emergency cesarean section was performed.

The Yin and Yang of Handing-Over

Underlying the ancient Chinese theory of Yin and Yang is the assumption that all things are interrelated and interdependent; no part has a life of its own but is shaped by and helps to shape other constituents (Ebrey, 1981). All events, including handing-over care of loved ones to health professionals, contain some Yin, elements of darkness, and some Yang, elements of light (see Figure 4). The elements of handing-over are described in the following paragraphs.

The Yin

The primary element of darkness in handing over was the loss of personal control. As evident in the following passages, the birthing process and the preterm baby were under the control of the health professionals.

> I could only stay outside this tiny window [outside the operative birthing room]. Everything was going on inside there and I felt kind of distant from it. I guess it's that saying, a father feels he has to be able to, you know, make sure things are being done right and will feel some kind of in charge, and yet I got put back and somebody else is now taking control. (Ross)

> I feel very lax in [being a father]. Of course, not by choice but just by the situation because of what kind of influence I would have on his care? . . . I feel like my hands are tied behind my back, I can't do a darn thing really, nothing really . . . it is out of my range of influence. I can't oversee anything. (Roger)

Interesting, some fathers felt their baby had control over the date of their birth and their well-being.

> I guess if [my son] was meant to be born early or he decided to come early, I guess that's the way it is supposed to be and it's out of our hands. So I guess, it's just something that is supposed to be. . . obviously [my son] wanted to [be born], he figured well it's time to come, I'm not waiting. (Grant)

Although none of the men would describe themselves as religious, they did believe their baby was in "God's hands" or the "hands of the Big Guy".

Vulnerability was closely associated with handing-over and loss of personal control. The anger that was so easily expressed during the interviews was rarely shared with NICU healthcare professionals. Concerns were only voiced to health professionals when the men perceived a serious threat their baby's well-being, unanswered monitor alarms, for example. Their reluctance to share their concerns stemmed from their perceived vulnerability. The men recognized the importance of the specialized care provided by the NICU healthcare professionals to their baby's well-being. Brad simply stated: "[if] my baby wasn't there . . . he was dead." Some men firmly believed that, if they complained, their baby would receive less than optimal care; others were inhibited because they felt beholden to the healthcare professionals.

The men's vulnerability is reflected in the following quotations.

> You don't want to piss too many people off because I'm not there 24 hours a day and I don't know if [if my baby] is gonna stay sitting there in wet pants because some nurse has got an attitude. (Roger)

> I kind of felt that considering all . . . they were doing for him and I kinda felt like who am I to jump in there and tell them their job . . .I didn't want to insult them . . . it's just that considering all that they had done for him. I didn't feel like saying too much about it. (Tim)

> Because [the hospital] is an institution. Because [families] don't know what the hell to do. Their loved one is in the institution's care so don't piss off the institution or it may affect your loved one's care. (Roger)

Powerlessness was also linked to handing-over and loss of personal control. Feelings of powerlessness, emerged whenever the men perceived that their rights and responsibilities as fathers were being unrecognized by the healthcare professionals. Several problematic areas emerged during analysis. Failure of the healthcare professionals to include the father in the decision-making process caused intense negative emotions. In the following quote, a father reveals his extreme anger upon learning of his son's transfer to the pediatric ward.

> I was not happy with that at all . . . nobody asked us or informed us or anything. [My wife] went [to the NICU] . . . and they were getting ready to move [my baby]. If I would have gone in there and [my baby] wasn't there and they would have already moved [him], somebody would have caught shit in a bad kind of way. Cause you don't do that to my kid, or to us . . . it's not your kid. You better damn well talk to the parents cause if I was there and the doctor would have told me that, I would have smoked him. I don't give a shit about the charges. Asshole you talk to me. That's the way I feel about it. (Roger)

Another problematic area was access to the information in the infant's chart. Curious and worried about their baby, all fathers sought information to relieve their uncertainty. As the chart was readily available at their baby's bedside, it was an obvious source of information and men believed they had a "right" to the information contained within the chart. However, assigned the role of controller of the chart by the hospital, the nurses ensured that the men did not read the chart contents. This conflict over the chart often lead to a heated debate in which the father was always on the

losing side. As a consequence, fathers experienced additional distress and the therapeutic relationship between the father and the healthcare professionals was adversely affected. "At that point in time, I was in a different mind space, completely. Everybody seemed and everything seemed unfriendly and unhappy. I didn't want to talk to anybody. I didn't want anybody to talk to me." Spence

Relinquishing personal control also meant having to wait, a source of chronic frustration for the men. The longer their baby was hospitalized, the longer the men waited. The men waited for many things. Above all, they waited "to take my baby home." For some, the wait was only days or weeks; others endured months of waiting.

> I wish we'd get out of here sometime. Especially near the beginning, it was hard . . . like will we ever get out of here? . . . [the baby] was so small . . . he does good [gaining weight] one week, but he loses weight the next. OH MAN, we're gonna be here for years. (Chris)

When the men were uncertain about their baby's survival, they spent considerable time "waiting to speak to the doctor". Meeting with the physician was often difficult given the limitations in physician availability and the men's work responsibilities. Some men found that these meetings unhelpful and they turned to the nursing staff for information.

> I don't know if [the doctor] knows the babies individually and I just kind of felt like we got the song and dance . . . [he] went on to the next one [baby and parents] and [the information] was modified slightly and then on to the next set of parents and it was modified slightly and you know, kinda worked his way around [the room] . . . if we have a question, I don't think we'll come in between two and three [in the afternoon], unless it something that we want kind of right from the horse's mouth sort of a thing . . . I think we'll just ask a nurse. (Tim)

A significant amount of the men's time was spent "waiting to see my baby". Following the birth, the men spent between three and ten hours "waiting" for the first visit. As illustrated in the following passages, this delay was particularly difficult for those fathers who had not attended the birth.

> It was kinda hard . . . I mean, you'd like to see him right away. It was hard

> for me . . . [I kept asking] "Can I come see my little guy?" [The NICU nurses said] "Well no, there's another admission right beside him, or there's a problem, or something was going on, and you can't." So I thought, OH MAN, I just want to look at him, you know. I don't want to play with him or anything. (Chris, a non-participant father)

Before entering the NICU, the men had to gain permission from the nurse caring for their baby. Permission was denied during physician rounds, a sudden deterioration in the well-being of any the hospitalized infants, the twice daily change of nursing staff, or an acute increase in the nursing workload. "Waiting to see my baby" was an ongoing source of frustration, particularly during a prolonged hospitalization period.

> It's frustrating. Cause I mean [my baby's] actually growing. He's actually doing good. You're actually getting somewhere where you can do something with him and you can't [get into the NICU] because there's another sick kid in the bay, and it gets frustrating. (Chris)

> On the weekend, we couldn't come when the visiting hours, when we were supposed to be allowed in and the doctor is still doing rounds . . . I kinda feel like the schedule was kind of set there and we live by [the baby's] schedule. Don't change his schedule on us. (Tim)

> You just come in to buzz [the door] and sometimes, well it's [doctor's] rounds so you gotta wait awhile. You know, it's not a big thing, but some days it's like you won't be able to get in today. . . [the NICU staff] told us we've been quite patient and like we try. Like, I mean if there's a problem [with another baby], . . . fine. It's frustrating, but [you] go off and have coffee and come back later, or tomorrow, or whatever. (Chris)

The men tried to avoid this frustration by contacting the unit before leaving home. Unfortunately, because events changed rapidly in the NICU, preapproval did not always guarantee entry to the NICU.

All men could "hardly wait to hold" their baby. Some men waited a short period; some men waited for months. The duration of the waiting period was related to the tolerance of the infant for handling, the ability of the infant to maintain a normal temperature outside the controlled environment of the isolette, and the nurse's workload.

<u>The Yang</u>

In handing-over, the men gained time to work through their uncertainty,

primarily the uncertainty of the present. The process of working through involved pursing knowledge, seeking hope for a future, and learning to father.

Pursuing Knowledge. In pursuing understanding, the men actively sought information about "anything and everything", health problems common among the prematurely born and the NICU environment for example. Another area of intense interest for those men caught "off-guard" by life-threatening pregnancy-related problems and the emergency cesarean section was the cause of the unexpected change of events. Most often, the cause was unknown. In a need to assign responsibility, some men decided the preterm birth was inevitability predetermined. Some men blamed the early birth on a meddling sister-in-law or a doctor who had induced the birth "too early". Other men wondered about their own culpability.

> I felt that in a religious sense that [my baby] was suffering because of my sins in the past, . . . I felt that I may have done something wrong . . . I felt really responsible and I felt so guilty. (Ross)

Wives were never blamed for the early birth.

All men sought understanding about health problems common to the premature infant and about the NICU environment. The men used a variety of methods to gather information: questioning; watching; and reading. These methods of learning are now described.

Asking questions was a commonly used technique to gain knowledge and understanding of novel events. There was a relationship between the intensity of uncertainty experienced and the frequency of questioning; the more uncertain the men felt, the more questions they asked. Questioning began in earnest after the premature birth. Ross said: "I tried to suck in as much information as I could . . . trying to absorb what's gone on in the last several hours and trying to get some understanding."

The men attempted to gain a global understanding of events by questioning a broad group of individuals. Some men sought information from family and friends. Brad said: "We asked everyone's mom, brother, and sister, and everything we could that might have some kind of knowledge." Most often, however, the men's inquires

were directed at healthcare professionals. Here, the men asked questions of "anyone we could and everyone we could, all the time." Attempting to gain a broader breadth and depth of understanding on a particular issue, sometimes the same questions were posed to many different healthcare professionals. In the following passage, Kurt explained his rationale for this information seeking technique.

> You ask a lot of the same things again to try to figure out what their [the healthcare professionals] opinion is. Because no one thinks the same . . . everyone has a different way of observing them [the premature baby] even though they [the healthcare professionals] all know the same things.

The intensity of uncertainty determined which health professional was sought out for questioning. The men believed the neonatologist was the best source of information and the more uncertain the men felt, the more they wanted to speak with this physician. For example, Spence didn't seek out the neonatologist during the "first five days" of his son's hospitalization because "I didn't think anything was wrong." As soon as he became aware of a "problem", an appointment with the neonatologist was "booked." As the men's uncertainty was relieved, they turned their questioning to other healthcare professionals, in particular the NICU nurses. Overtime, the men learned that the nurses were the best source of information about their baby's general well-being and day to day progress. In the following passage Tim explains the transition from physician to nurse in seeking information.

> At first we kind of thought we have to go to the highest authority [the neonatologist] to find out about our baby and now we think the highest authority doesn't really have the same contact [with my baby] as the nurse would. [The nurse] would know off the top of her head . . . whereas the doctor needs to flip through the [baby's] chart.

Some men worried about the quantity and the quality of their questions. The men were reassured by the nursing staff that their questioning was appropriate and welcome and, for that, men were particularly grateful. Ross said:

> We love the people in there. They're just doing such a great job, you know. They spend the time to talk to you . . . I just feel I can talk to them . . . I get the information I need. They spend the time you know. They tell you how to do this or do that . . . it's comfortable talking with them.

Other men concurred:

> The nurses are very, very helpful . . . I said [to the nurse] this might sound like a dumb question and ALL of them say "No. It's not a dumb question. If you have a question, ask us. We're not going to tell you that is a dumb question. You want to know so we'll tell you." So they've been very good. (Grant)

> Most of the nurses that I have come in contact with [have] been really good. They'll tell you exactly, you know, anything they can tell ya. If they don't think they can, they all say, they've told me straight, you know, come back at two o'clock tomorrow and you can talk to the doctor about it. (Brad)

Another method of gathering information was watching. During their visits to the NICU, the men vigilantly watched the physiologic monitoring systems, the nurses and other babies. Initially, watching their baby yielded little information about their newborn's well-being. In fact, the prolonged periods of inactivity, common among premature infants, actually increased the men's uncertainty. As a result, fathers focussed less on their baby and relied more on the physiologic monitoring systems and the nurses for information about their baby's well-being.

The physiologic monitoring systems attached to their baby provided the men with detailed second-by-second information (heart rate, breathing rate, blood pressure, blood oxygen level) on their baby's well-being. Tim said: "[The monitor] was something that told me if he was going to live or die or whatever." Brad added: "I think [the monitors] gives you a backup . . . the first time I saw him, I thought, he looks fine. And the machines sort of confirm it." Compared to their visually "lifeless" baby, the readily available monitoring screen was visually appealing and all men watched the monitors "a lot". With the passage of time, the fathers acquired detailed knowledge of the monitor's functioning.

> The numbers and the squiggly lines [on the monitor], I learned to see that . . . if the heart rate is steady and if the arches [referring to electrocardiogram configurations] are consistent, then it's okay. But if they're very inconsistent, it could mean that [my baby] is moving around, or that he's upset, or he's getting hungry, or I don't know. It could mean anything I guess. (Ross)

The men supplemented the information gained from the monitoring systems by

watching healthcare professionals for clues about infant well-being. Spence explained:

> I'll be looking at [the monitor] and I'll watch the nurse's face and if they don't show any cause for alarm or they don't look distressed at all and the baby's colour looks good, I don't worry too much. Sometimes if they look up and you'll know [by] their body language. They come over and look at your baby first and they'll check him out and then they are worried . . .If [the nurses] weren't distressed, if they were calm then everything was okay.

Overtime, as their uncertainty declined, the men's reliance on the monitoring systems subsided but never completely disappeared.

The final method of gathering information was reading. As previously mentioned, some men unsuccessfully attempted to read the information in their baby's chart. More successful sources of gaining information were the Internet and the local public library. These sources of information were particularly useful for Spence. In the following passage, he described a conversation with his wife as they tried to figure out their baby's problems, to determine possible medical investigations into the problem and to seek reassurance of their baby's well-being.

> Before [my wife] got home [from the hospital], she would phone me and say, "What did your book say?" . . . I'd read her some of the paragraphs and I'd say, "Well here's what's happening. I think [the doctors] are going do this or that." . . . I would say, "Here's a case of a certain baby that seemed similar to ours and here's a picture of it at three years old, it looks great."

There were several positive consequences of pursuing knowledge. Overtime, because understanding about their baby's health-related problems and proposed treatments was gained, the men's feelings of uncertainty lessened and hope increased. These feelings are illustrated in the following passages.

> I felt good, even though I'm not medically knowledgeable about a lot of things; when I feel confident that one of the nurses or doctors is telling me he's doing much better, it was kind of like aahhh [vocalization suggesting relief] . . . things kinda started to level out and open up and feel more comfortable and feel good about the situation. (Ross)

> I wanted to know so I asked. I wanted to know how [my baby] was doing, and I wanted to get a feeling of comfort in my own mind as to how he was doing . . . the more information you have, the more comfortable you feel. (Kurt)

> It comes together, I guess. There's not all these things hanging like what's

> going to happen with [my baby] or her, what's wrong, what's this, I mean it all comes together. I think it's [going to be] okay. (Chris)

As "things started to come together," the men began make plans for fathering within the NICU. Ross said: "I felt that, okay, I'd kind of gotten the picture here. Things had sunk in. Now what am I going to do about it?"

In summary, shortly after the birth, the men pursued knowledge to increase their understanding of past and present events by questioning, watching and reading. As a consequence, the men's uncertainty was reduced and hope began to emerge.

Seeking Hope for a Future. In seeking hope, the men actively sought relief from their feelings of uncertainty about infant survival. The men looked for and found hope in the markers of infant progress and in supportive relationships with others. These actions are described in the following paragraphs.

Antenatally, all expectant fathers worried about the normality of the growing fetus. Following the preterm birth, to allay their uncertainty, all men inspected the physical development of their babies. Despite the extreme gestational immaturity of some infants, the presence of "ten fingers and ten toes" was an important verification of normal physical development.

> [My baby] looked normal and everything, I checked him out, he had his feet and toes and stuff like that. He looked fine, nothing [missing], all his hands and fingers were there. (Chris)

The men also inspected their babies for preconceived notions of infant well-being. These notions were conceived during past experiences with other, often older, infants. These signs were crying, spontaneous movement and pink skin tones; collectively, the presence of these signs defined the "looks good" infant. The men equated crying with normal respiratory functioning and thus, an essential indicator of infant well-being. According to Kurt, "as long as you get a good cry out of them, they should be fine." Spontaneous movement was evidence of physical strength.

> I like to see him rolling around. I like that he's squirmy and active and trying to move things. He can roll his head over and stuff, and I like that. And that makes me feel good cause that makes me feel that he's strong. (Brad)

Collectively, crying and spontaneous movement suggested that their baby was a "fighter" and thus, provided hope for the future. In the following quote, the father with previous preterm birth experience compares his babies.

> [This baby] was kicking and flailing. To me that was good cuz when [my first baby] was born . . . they kinda took him and set him on the table and he was flailing but it wasn't as much. [Whereas] with [this baby] he was, he was kickin' and he cried twice where [my first baby] only let one little yell out . . . between [these two babies] I guess, [this one] is stronger, his will to live is obviously stronger.

Other men expressed similar sentiments.

> [My baby] was fine right from the [birth] . . . He was all nice and pink and squirming around. And he cried out . . . he looked good to me. (Brad)

> Soon as they brought him out, he just cried right now . . . just a real, high-pitched scream and I thought, RIGHT ON . . . That really made me happy. (Kurt)

> I put my finger down, he had his hand out and he grabbed my little finger . . . he didn't just put his fingers around my finger, he actually grabbed it, like I felt pressure on the finger . . . So then that was right on and I figured he might make it. (Roger)

Later, during the infant's hospitalization, the men looked for signs that their babies were "doing good" and thus, gave them hope for a future. These markers of progress were gaining weight, waking for feedings, increasing alertness and physical activity, decreasing jaundice and normal radiograph and biochemical test results.

The normalizing of infant caretaking techniques was also a marker of progress. "Doing good" was associated with a change from gavage or tube feeding to bottle feeding and with a decreased amount of equipment attached to their baby.

> It's nice when they get the gavage tube out and they're not hooked up to the machine anymore. Just laying there and not hooked up to anything, and being able to bottle feed them, it's, you know you're getting real close and it's exciting. (Kurt)

> We're really happy he didn't have all his hoses running into him. And all the IV's gone now . . . he looked real sick when he had all that stuff into him . . . Now he doesn't, he looks better. (Grant)

There was a relationship among equipment, hope and paternal caretaking. In the

following passage, Tim explained this relationship.

> As you see each little piece of equipment come off him, I feel like he is going to be fine. Then you can hold him and take care of him, like he can come out of the isolette for half an hour.

Another marker of progress was a change in the type of bed being occupied by the infant and the location of the infant within the NICU. Three different types of bed were used in the NICU. Based on their observations, the men associated the opencare beds with serious illness, isolettes or incubators with less serious illness or stabilization and open cots with wellness and readiness for infant discharge. Thus, as the infant was moved from an opencare bed to an isolette and, finally, to an open cot, the fathers concluded their baby was "doing good". The NICU was divided into five areas called bays. Because the men had observed that the more acute infants were located in the first three bays, the transfer of their baby to bay four and five was marker of progress.

> This is great, he's doing better . . . like coming from the table [opencare bed] with the heat lights down on it to the isolette, that's better . . . and then two days later he's into a bassinet, my goodness. And then he was into bay four and we were just like, WOW, this is like three jumps, three steps. (Ross)

Collectively, these markers of progress suggested improved infant well-being. The men used the metaphor of "out of the woods" to describe well-being. The metaphor was commonly used to explain to family and friends the health status of their baby.

> Everybody asks us how he's doing? I say, well he's doing good, but he's not out of the woods yet, you know. I think the way he progressed, he's maybe half way out. But he's still not out, you know. (Grant)

The journey "out of the woods" was a slow process involving a series of steps. Sometimes the infants took "lateral steps." Chris explained: "it would be like going from an IV to a pill or back, you know. Same medications with a different way of getting it." An infant could be "out of the woods" in some areas of their well-being but not in others, for example, an infant who was tolerating oral feedings but continued to need support from a mechanical ventilator.

Being "out of the woods" meant resolution of the uncertainty about infant

survival and thus, hope for a future. However, progress "out of the woods" was abruptly altered by any setback in infant well-being. Although seemingly minor and expected events from the healthcare professional's perspective, setbacks were highly significant events which caused intense despair among the fathers. An example of such an event was the process of establishing oral feedings in the preterm infant. Ill preterm infants were feed intravenously. As the infant stabilized, oral feeding was introduced and commonly, the infant experienced some oral feeding intolerance. This intolerance was managed by the healthcare professionals by reducing or discontinuing oral feedings and returning to intravenous nutrition. The men viewed this intervention as a serious "step backwards."

> [My baby] didn't do very well [with oral feedings] at all, like he had to go back on the IV . . . that pretty much reversed things . . . I thought he's really regressing . . . [The intravenous in his head] was pretty hard to see, it made me feel that he was sicker."

Thus, the men experienced their baby's progress "out of the woods" as steps forward and steps backward (see Figure 5). The men's emotional responses were clearly interrelated with their baby's progress "out of the woods". Steps forward propelled the men upwards toward hope; steps backward tumbled the men downward to despair. The men used the metaphor "riding the roller coaster" to describe their emotional ups and downs.

> For about that six week, seven week period. All the troubles that we had. The roller coaster ride with our emotions was just havoc. (Ross)

> I think it's just the feeling like, things are going well so you're feeling really good and then all of a sudden there is a little set back and you're going down again. (Brad)

Determined to endure, some fathers maintained hope for a future by avoiding negativity - "any negativity hurt, you don't want to hear it." The most poignant example of avoidance was illustrated by the father who had previously experienced the death of prematurely born baby. When his next baby was also born prematurely, he decided "I gotta remain optimistic." Because of his previous experience, this father was aware of the medical problems, common among the prematurely born, that result

in varying degrees of impairment. Examples of these problems are retinopathy of prematurity, a disorder of the developing eye, and intraventricular hemorrhage, bleeding into the small centre chambers of the brain. As a result of his knowledge, he worried about his baby's future quality of life. Although he frequently met with the neonatologist, he avoided asking about test results. He said: "We were waiting for the results but we haven't heard anything so we assume that nothing is wrong . . . I guess, everything is okay." His passivity and avoidance of potentially bad news maintained the illusion of "normal quality of life". Given his past experiences, this illusion helped him endure and maintain hope for a future.

Hope was also found in the supportive relationships with healthcare professionals, other families in the NICU, and last, their wives. Compared to the NICU physicians, the nurses were a more important source of hope for the men. There were two possible reasons for this discrepancy. Compared to the nurses, the physicians were more objective in their discussions with the fathers about their baby's well-being.

> [The doctors] can't say "Well, you had a breech baby and she was born with the placenta and her color was bad and we had to revive her and she's unresponsive and floppy. She's not acting like we would like to see at this point but we think she's going to be fine, don't worry about it." They can't say that. But some of the nurses would give you a glimmer of hope. (Spence)

The men also spent more time interacting with the nurses than they did with physicians. Thus, there was opportunity during these interactions for the men to find hope for a future.

In their various roles of "experts with expertise", the NICU nurses were a significant source of hope. As experienced guides, they normalized the intimidating technological environment of the NICU. As interpreters, they gave meaning to the unreadable behavior of the preterm infant. Because the men expected babies to be "crying and hollering [and] wiggling constantly", the usual preterm infant behavioural states of sleep and drowsiness were particularly worrisome to the men. The nurses explained the behavioural differences between preterm and older infants and

normalized the preterm infant's "sleepy" behaviour. The nurses highlighted the subtle changes, easily unnoticed by the lay fathers, indicating improvement in the infant's well-being. Also acting as interpreters, the nurses demystified common NICU jargon. This nursing activity was particularly important following interactions with the neonatologist. As teachers, the nurses shared their knowledge of neonatal pathophysiology using concepts the men could understand. With their experience in caring for other ill preterm infants, the nurses compared this baby to other preterm babies who had achieved good health outcomes. As the infant stabilized, the teacher role was critical in learning how to be a father. These ways of providing hope are illustrated in the following passages.

> She was waking up but she wouldn't cry for food and some of the nurses say "Well they don't, not all them are big criers to begin with', she said, and you know, we never let them get hungry for one thing. We just don't." (Spence)

> When I first went in [the NICU] the first time, and there's little wires all over [my baby], and he got intravenous in his hand, and you're like, why does [my baby] have that? Isn't he fine? . . . people [NICU nurses] were quick to tell us "No, that's just fine. Those are just monitors and intravenous is just for their fluid level, to make sure they're getting enough fluids." [Then] you think, oh okay, that's fine. (Kurt)

> [The nurses] said it's quite normal for premature babies to have [apnea]. They weren't really overly concerned about my baby from the discussions we had. But I felt like . . . they've seen so much of it and, and I felt they would tell us if it was really bad or there was danger of losing her or something that they would tell us. I didn't think . . . they were holding back so I just had to get used to it I guess. (Brad)

> I know that [the nurses] see so many children. . . so when they see improvement or when they see a baby doing things they kinda know whether it fits in the norm or whether it's not. (Spence)

The men found hope for the future from the other NICU families and their babies. By comparing experiences, the men gained additional bread and depth of understanding about the well-being of their baby and, as a result, hope.

> It's nice to have that kind of a reference to go by and talk to people, and find out their guy's [baby is] off oxygen, but he doesn't like the bottle. Well, our guy likes to bottle, but he's still on oxygen . . . You find out [your baby is]

doing good in some places and not so well in others. (Chris)

As the men observed the other infants in the NICU, they quickly learned there were a variety of neonatal health problems. Downward social comparisons were used by some fathers to maintain optimism.

> When you're in neonatal intensive care unit there's so many babies in incubators and you're not looking around, but it's easy to see, without trying to see, that this baby is only two pounds or whatever, and has a breathing apparatus on it making it breath. And you just feel so good when yours has gone another little step. You just feel really good and there's nothing to worry about. (Kurt)

As one father compared his son to the other infants, he repeatedly commented throughout the interviews, "(my son's) just fine, he's just small." His comment is interesting given that his baby was the most gestationally immature of all of the preterm infants in this study. This infant's course was typical of the prematurely born; however, compared to other infants, the course was relatively stable.

Partners were another source of hope. Because of work responsibilities, fathers visited less often than mothers. As a result, the men often looked to their partners for updates in their baby's condition. Some men believed that their partners had special mothering knowledge about their baby's well-being. Spence said to his wife: What's your mother's instinct say? She's always been quite right, you know. She said I think the baby's going to be okay."

As a consequence of finding hope, the men began to look forward to the future. This theme had a temporal dimension. In the immediate future, all men looked forward to more infant caretaking, specifically holding and bottle feeding. Others, looking to the near future, fantasized about full-time fathering.

> I imagine going home and in the morning waking up and he's awake and we're all just kind of cuddling in bed, and just having him against my chest. It'll be so nice. (Chris)

> Waking up in the middle of the night and calming him, or carrying him around, or rocking him, watching TV, you know. I already got his favorite cartoons picked out. (Grant)

Others fantasized about the distant future. The daydreams always centred around

physical activities involving both the father and the baby, as a child.

> A year from now . . . he'll be throwing food on the floor at the dog, . . . I just said I'm just going to let him do it . . . because I got that picture in my mind of him leaning over his chair, smiling, throwing food on the floor for the dog . . . it's something I guess I want to see him do, you know. It's something, I don't know how you could word it. A vision, I guess. A vision or something that's, you hope he will do. (Grant)

> I guess I'm looking forward to him coming home. We talk about things we can do, like I can take him to the boat races or we can go to the fair or play soccer or play hockey, you know, stuff like that. (Chris)

In summary, the men sought hope to relieve their the uncertainty about their baby's well-being. In seeking hope for a future, the men turned to their baby, the healthcare professionals, the other NICU families and their partners. Some fathers maintain the illusion of hope by avoiding "bad news". As a consequence of finding hope, the men began to look forward to future in which father and child were mutually engaged.

Learning to Father. Because of the many obstacles to fathering posed by the unexpected change of circumstances, the men had to learn how to father within the context of prematurity and the NICU. The analysis revealed a spatial dimension to the paternal role. Overtime the men progressed from distant fathering to more intimate fathering.

During the acute phase of the premature infant's illness, the men were cognisant of their baby's need for specialized medical and nursing care. Fathering was initially limited to providing emotional support by maintaining a watchful vigil at the bedside. Seeing his son attached to "the respirator, the wires and the IV" and knowing "something is seriously wrong with my son", Ross realized: "the best thing I can do for him is just to be there and show my support . . . I'm sure spiritually it'll be comforting for him."

The men became "supervisors of care". As "supervisors", the men were fulfilling the traditional role of father as protector. Roger explained: "I suppose if anything [my role] was to make sure that whoever was looking after him was

LOOKING after him . . . doing what I could to make sure that he was getting the best care that he could possibly get." Some fathers were reluctant to assume the supervisor role. Although very concerned about the skin breakdown on his son's legs caused by the disposable diapers, Tim was hesitant to discuss the problem with the healthcare professionals.

> I kinda felt like who am I to jump in there and tell them their job and say "Ya, his legs are getting scratched up here" . . . I didn't want to insult them . . . I didn't want to say that my baby is more special than all those other babies and so pay closer attention to that. It's just that considering all that they had done for him. I didn't feel like saying too much about it. But I wanted to make sure it was looked after at the same time.

Others readily took on the role, particularly in situations perceived as threatening to the well-being of the baby. For example, the importance of infection control practices within the NICU was impressed on the fathers during their very first visit to the unit and frequently thereafter. Most fathers mentioned during the interviews the importance of "washing" before touching their baby. Some fathers monitored and enforced, as necessary, the compliance of the hand washing rule for healthcare professionals and visitors alike.

> I had a discussion once with one of the mothers who didn't . . . pull off her rings. I say, you know you're supposed to pull off your rings when you come in here. She just gave me a snotty look, and I thought, you bitch. Your kid gets sick, and other kids get sick. (Roger)

Another area in which the men enacted their role as "supervisor of care" was ensuring the prompt management of monitor alarm situations. The fathers quickly learned that monitors were a life line to their baby's well-being. Watching the monitors was a full-time occupation for visiting fathers and initially each activation of the monitoring alarm system was interpreted as a potential crisis. Roger ensured that his son's alarms were promptly answered. He said: "I can be [responsible] when I'm there. I can be responsible for her care. If an alarm is going and nobody is answering it, grab somebody and say 'deal with it'."

Some fathers supervised the nutritional aspect of their baby's care.

> [My baby] was choking on the formula. After the nurse had him and she got him back up and everything's okay, I grabbed the bottle and I turned it upside down and it just poured out of the nipple. We went through four or five or six, I kid you not, nipples, before we found one that dripped and it didn't . . . it still dripped too quick for my liking. (Roger)

> The formula [my baby] was being given, he didn't like. He had lots of gas and burping lots and we asked them, is there something different that you can give them? They said well, there is but we should leave them on this first anyway. We said well, why? They are throwing up every time they eat it. Well, it's just probably their stomachs. Well maybe you guys should try something else first, like, you know. Instead of just blaming it on their stomachs and letting them starve or not eat very much and throw up. Why not try something else? (Kurt, father of twins)

Overtime, as the well-being of the infant improved, the men assumed increasing responsibility for their baby's physical needs. Paternal caretaking involved primarily infant feeding and holding. Given their predilection for activity, the men preferred bottle feeding to gavage feeding.

> [Bottle] feeding, not gavages, but actual bottle feeding them, where you're involved with them. You're gonna burp them and you can play with them a little. Not play with them, but, you know. You hold them and you burp them, and you know, instead of just holding the tube. (Chris)

This passage demonstrates that bottle feeding was a "doing" activity between father and infant; gavage feeding was a passive activity which involved "just holding the tube" with the infant "just laying there."

Some men enjoyed the intimacy of holding their baby skin-to-skin; others preferred to "hold him in his blankets". Overtime, as they watched their baby in the isolette, the men got used to their baby's small size. Holding for the first time reconfirmed the smallness of their baby.

> When I first held him I couldn't believe how tiny he actually was, you know. I mean looking in the incubator, oh well, he is small. But then once I got him and I was holding him, I'm going well he's got these little delicate fingers and his tiny little head and body. (Grant)

Some fathers learned to adjust their infant holding technique to meet the needs of their premature baby.

> I wasn't hugging [my preterm son] by any means like I would hug [my three-year-old son] . . . I would hold him like I would hold a dozen roses that I would bring home for [my wife] . . . very tenderly. (Roger)

Overtime, as a consequence of infant caretaking, the men gained confidence in their abilities and thus, reduced the uncertainty about the quality of their fathering.

> I would try [to] get in there for a couple of feeds a day and they would show me things to do like rub the cheeks, my wife would show me things, 'er, stroke under the chin little bit 'er sometimes you gotta help her and give her a little bit of pressure . . . the more I learnt, the more confident [I was] in bottling. (Spence)

The men had to share infant caretaking with their wives. Ross explained: "[my wife will] try to breastfeed him both sides, and when she's finished . . . I'll take over while she goes and pumps . . . I'll finish feeding him and then I'll cuddle him and burp him, and just relax." Sometimes the sharing was negotiated between the parents and results of the negotiation carefully documented. Grant said: "we write on the calendar everyday . . . whose turn it is to hold him."

With the passage of time, the emotional connection to the preterm infant strengthened. Grant explained: "I've grown closer to him. I was always close to him, but I think I've grown closer [to him]." The process of connecting was assisted by several factors. Because fathering was equated with physical activity, the most important factor was infant responsiveness.

> I have a hard time leaving when he is awake . . . at the beginning [when the baby was sleeping a lot], it wasn't as hard but now it is hardER that it was in the beginning and it is going to get hardER to leave because he is awake, he is conscious, he is looking at me. (Roger)

> [My baby] can communicate now, he can look at you . . . little things like talking to him on one side and he'll turn his head . . . I think that plays a lot in bonding as well, [the connection] has definitely grown, I just feel . . . he's my son. (Ross)

As illustrated in the following passages, infant caretaking was another factor facilitating the process of connecting emotionally.

> I like feeding him . . . it's a chance to be with him and bond with him (Ross).

> Just to hold him and then have him put his hand on your chest and wiggle his

> toes, and the belly . . . it's kind of a neat feeling actually. I like it . . . it's a small step, but it's an encouraging one. (Grant, while holding his baby skin-to-skin)

> [I feel] I'm babysitting or something. I mean, you just kind of come in and see him, you know. He's not really there. I mean you can't hold him, you can't look, you know. You can't really just be with him. You always just look at him through the isolette, or you know . . . Like he's just a baby there. Maybe he is our baby and maybe he's not, but if you get to hold him you know he's your . . . he's your little guy. (Chris, while holding in arms)

When their caretaking was perceived as having a positive effect on their baby's well-being, the men felt reinforced as a father. This positive effect was observed when the infant relaxed as the father gently patted his baby's bottom or the infant fell asleep in the comfort of his father's arms. Recognition of the infant's dependency also brought the men closer to their babies.

> [My baby] was flailing and everything and then they sedated him and he was still kinda moving around so I would say, "[Son], it's dad, what are you doing? settle down". . . Then he kinda opened his eyes, I don't know if he was looking at me but it seemed that he knew I was there, I guess. So, that kind of made me feel good . . . made me feel wanted. (Grant)

> And it's not just to feed them or do anything else, it's just to be here. I like it when [my baby] cries in there and I know we're needed, you know. [It's] like here's your Daddy. It's all right. We'll feed you, don't worry little boy . . . And he's just looking at you just crying away. And you're thinking, oh poor little boy, you belly's broke. We'll fix it. You know. (Kurt)

For Chris, time alone, as a family, helped him feel fatherly. However, this opportunity to be away from the NICU was limited to "rooming in" which occurred immediately before discharge from the hospital.

The men perceived a difference between the maternal and the paternal connection. Most men believed the stronger parental connection was between mother and infant. Chris said: "It seems to me that the moms are just more attached right away. Whereas for me it's more of a time [thing]. You're getting more attached as time goes on." The men attributed this disparity in parental-infant connection to a variety of factors. The men believed the connection between mother and infant began during the pregnancy and thus, occurred over a longer period of time. The process of

giving birth strengthened the maternal connection process. Following the birth, because the mothers visited their premature baby more often than the fathers, the mothers had more opportunity to be involved in caretaking and holding, especially skin-to-skin contact. These factors are illustrated in the following comment by Roger.

> Her [attachment] is probably closer, she's done more kangaroo care and . . . she has also spent more time [in NICU]. And of course she carried him for almost nine months. And she's the mother so, of course. I believe that any mother has got the better relationship with the child as far as that bonding thing . . . Throughout the mother and daughter's or son's entire lives, I don't think that would ever come close to . . . well, it might come close but I don't think it would ever be exactly the same as with the father . . . I don't think it will ever match that, it can come close but it is not the same type of relationship.

With discharge from hospital the men became full-time fathers to their babies and, facilitated by increased infant caretaking, the emotional connection from father to infant continued to grow. All men reported an increase in "playtime" as the fathers and infants engaged mutually enjoyable games. These games often incorporated aspects of caretaking.

> I fly him around the room once in awhile . . . our burping sessions are getting to be play things. Sometimes he burps really well and other times you just gotta fight tooth and nail to get them out of him. So you find all these weird, different methods of working burps out of little kids . . . if [you] row his arms back and forth, it'll work out burps. (Chris)

> He's getting kind of playful now, so. . . his feet seem to be a lot of enjoyment for him. I can bump them on my face and make funny noises and stuff like that. We have play time. (Ross)

Infant feeding remained an important time for relationship building. Although the men supported breastfeeding, this method of infant feeding was identified as a potential barrier. Chris said: "If she was breast feeding I think it would take a lot away . . . I like feeding him. . . it's a chance to be with him and bond with him."

Given the effort involved in ongoing hospital visits, most men reported that full-time fathering at home required less effort than part-time fathering in the NICU. Further, because of the men's employment responsibilities, the mothers assumed the role of primary caretaker. Others reported that they were more tired following infant

discharge because of their combined employment and full-time fathering responsibilities. Also, the men reported night-timing feeding as particularly difficult. In the following passage, Ross described the parental sharing of the nighttime feeding ritual.

> Sometimes he just fusses and you hear it and you'll get up before he starts getting real upset. So usually one of us will change him and the other one will warm up his bottle and feed him. And the next time we usually do it the other way.

In summary, the men had to learn to father within the context of prematurity and the NICU. Over time, the men progressed from distant to more intimate forms of fathering. There was a relationship among infant caretaking, paternal connection and feeling fatherly. When I asked Chris what helped him feel like a father, he said: "just looking after him . . . like feeding and changing and, playing with him a bit." Spence agreed. Compared to his relationships with other children during infancy, "because I've been there feeding, holding, talking to nurses, talking to doctors, watching [my baby], emotionally, seriously involved, there seems to be more of a connection there with me and him." With discharge from hospital, the fathers became full-time fathers.

Reflecting on the Unexpected

A second interview was conducted some weeks after the infant was discharged. Similar to the initial interviews in which the men told and retold their birth stories, the fathers spent considerable time during this interview reflecting on the hospitalization experience and searching for meaning in what had happened. Despite everything, most men felt the experience had been positive. Some men were cognisant of areas of personal growth.

> I'm actually better off to have experienced something like this. Not that I would have preferred it that way, but after you look at it and you go, well, that was a good experience. (Ross)

> Anytime . . . something bad has happened and you've survived, you come out with your head above the waters, even though it was negative, it still has a positive effect . . . then obviously you've grown stronger or learned

> something, learn how to deal with it or whatever. Any new kind of life experience is probably the right thing, even if it is negative. Providing of course that you can pull through it with your brain still intact, let's put it that way. (Roger)

Some had developed a stronger appreciation for life.

> You get a better understanding and more of an appreciation for a lot of things after going through something like this. And one day I'll probably be sitting down and this will all come back to me and I'll be able to say yeah, this was an experience that I'm very glad I got to go through.

Although marital "strains" were described, none of the men reported ongoing problems within the marriage as a result of the premature birth experience. In fact, several commented that their relationship with their wives had been strengthened. Using an analogy, Tim explained:

> I kind of relate it to a tree. You plant a tree somewhere and you give it shelter and you water it every day and you make sure it has the proper amount of sunlight and then go plant it somewhere. It's got no roots, never been in the wind. Wind, lack of rain, lack of sun really makes a tree stronger. Same in a relationship, you know, an argument, a disagreement . . . you have to sit down and talk about it, it makes the relationship stronger.

One father, however, was unable to describe the experience in positive terms.

> It's been an experience that I would not want to ever go through again and I would never recommend it to anybody. . . I didn't see a baby die in there but I arrived at a time shortly after a baby has died. I've seen babies come and leave in short periods of time and seen happy parents and I've seen distraught parents. I've seen a lot of things that I've never seen and never want to see again. I pray for every parent and baby in an NICU anywhere in the world that they have a happy ending. They won't all. It's not fun. No, it's a bad time. (Spence)

For this father, the health outcome for his preterm baby was the most uncertain of all the fathers interviewed.

In summary, following discharge from hospital, the men searched for meaning in the premature birth experience. For some fathers, the experience had been positive in promoting personal and interpersonal growth. For others, who continued to experience intense uncertainty about their baby's future health and development, the experience was negative.

CHAPTER V: DISCUSSION

This thesis is an exploratory descriptive study of eight fathers' experience with the birth of a premature infant. In this final chapter, a summary of the findings is presented. Next, because uncertainty emerged as the central phenomenon within the qualitative data, these selected findings are compared to existing studies on parental uncertainty. A discussion of relevant theoretical perspectives follows. Finally, the chapter ends with the implications for nursing practice arising from this study, ideas for additional related research and a discussion of the limitations of the study.

Summary of the Findings

I begin this section by addressing the specific research questions which guided this inquiry. The discussion will focus on three aspects: the paternal descriptions of the preterm infant's physical appearance and the NICU environment; the effect of the preterm birth on the men's interpersonal relationships; and the evolving paternal-infant relationship. A summary of the uncertainty associated with the preterm birth experience will follow.

Paternal Descriptions

The rich descriptions of the physical characteristics of the preterm infant as seen by their fathers added to the literature on fathers' descriptions of full-term infants. There was a relationship between the gestational age of the infant and the physical characteristics described by the father. The more immature the infant, the less the descriptions were comparable to the physical characteristics of the full-term infant. By comparing their baby's weight to a familiar commodity, a pound of butter for example, the men assisted others who were unfamiliar with preterm infants to conceptualize the smallness of their baby.

The fathers placed emphasis on the external physical features of the preterm infant in order to determined the well-being of the infant. The men stressed physical development [ten fingers and ten toes] and general functioning [pink skin tones, spontaneous movement and crying]. Interestingly, when the infant had an internal and thus non-visible health problem, it was more difficult for them to determine well-being.

A structural brain abnormality, for example, had no visible physical features and therefore was more was problematic for the men to comprehend. Other parents have grappled with the similar disparities in determining the well-being of their newborn infant (Sparacino, Tong, Messias, Chesla, & Gillis, 1997).

Consistent with the findings of others (Hughes & McCollum, 1994; Miles et al., 1992; Perehudoff, 1990), environmental noise was particularly troublesome to the fathers. Initially, the amount of noise in the NICU hampered the men's ability to process all the information they received about the well-being and care of their baby.

Interpersonal Relationships

During and following the birth of their preterm infant, most men felt a need to be strong, particularly for their partners. In order to stay strong, the fathers suppressed negative emotions. As a result, crying became a private matter. Some wives misinterpreted their husband's avoidance of public grief as a lack of concern. For some couples, the wife's misinterpretation caused tension within the marriage. Despite this tension, all men believed that their marital relationship was stronger for working through the crisis of preterm birth as a couple. Compared to their relationship with their wives, the men's interpersonal relationships with friends, co-workers and parents were not significantly affected by the preterm birth.

The Paternal-Infant Relationship

The emotional link between father and baby began during the pregnancy and was facilitated by touch through their partner's abdomen, by viewing fetal ultrasounds and by hearing the fetal heart. This connection was abruptly and significantly altered by the preterm birth. All men mourned a variety of losses: the intimacy of connecting antenatally with their baby, the opportunity to perform their expected and prepared-for role during the birthing process, the physical and emotional intimacy of holding their baby in the birthing room, the loss of opportunity to photograph their newborn, and celebrating the birth with family and friends.

Because of numerous obstacles, it was difficult to build a relationship with their baby following the preterm birth. These obstacles included: fear that the infant would

not survive, the decreased opportunity to actively care for their baby because of the preterm infant's intolerance to handling, family and employment responsibilities which interfered with paternal visiting, fear of harming their baby, their discomfort in the environment of the NICU, and the overwhelming array of equipment and technology used in the care of preterm infants. Despite these obstacles, the father's emotional connection with his preterm infant became closer and closer as the infant's health improved and the father was able to care for his baby.

Given the preterm infant's need for complex medical and nursing care, the men had difficulty identifying a meaningful paternal role in the NICU. This difficulty was particularly evident in the initial days following the birth. For example, during the acute phase of the infant's illness, fathering was limited to keeping a watchful vigil at their baby's bedside. Overtime, the men forged a paternal role in the NICU. Working as part-time fathers, the men became "supervisors of care" in which they ensured optimal care for their baby. Later, as their baby stabilized and matured, the men became increasingly involved in infant caretaking activities, primarily infant feeding and holding. Caretaking facilitated meaningful interaction between the father and his baby. When paternal caretaking was perceived as having a positive effect on their baby's well-being, the men felt reinforced as fathers.

Uncertainty: Fathers and Preterm Birth

Throughout the father's experience with an infant born prematurely, there was no congruency between what the men had been expecting antenatally and the events that unfolded. In the last trimester, all pregnancies were complicated by unexpected problems. Because these problems threatened the well-being of the pregnant woman, the fetus or both, all pregnancies ended prematurely and an infant with complex care needs was born. Faced with unfamiliar phenomena, rapidly changing events, and limited information, uncertainty emerged as central to the paternal experience with preterm birth.

Uncertainty was experienced as an uncomfortable state of not knowing about the present and being unable to predict the future. The intensity and duration of

uncertainty varied among the men in this study. This variability was attributed to specific characteristics of the event triggering the uncertainty: outcome predictability, event familiarity, quality of information and pace of change. Intense uncertainty was associated with unpredictable, unfamiliar, rapidly changing events about which there was limited or conflicting information. From a temporal perspective, two categories of uncertainty were identified: an uncertain present (infant survival and fathering role) and uncertain future (the infant's future quality of life and quality of fathering).

Uncertainty about infant survival emerged as a consequence of the pregnancy-related problems, the preterm birth or both. Would their baby make it? It was fuelled by several factors. Cognizant of the symbiotic relationship within the maternal-fetal dyad, the men knew that a health problem affecting their partner would also affect their unborn child. Later, in the NICU, the men quickly related infant well-being with the number of health professionals and the amount of equipment surrounding their baby. More health professionals and more equipment were equated with precarious survival. Until the men adjusted to the physiologic monitoring systems, all audible alarms from equipment attached to their baby triggered uncertainty. Finally, uncertainty increased with any setback in the infant's progress. Because the care that the preterm infant needed was beyond paternal capabilities, the primary caretakers became the nurses and doctors working in the NICU. This transference of infant caretaking triggered uncertainty about the fathering role. Feeling superfluous, the men wondered: What is my role as a father?

As time passed, the well-being of the preterm infant stabilized. Uncertainty about the infant's future quality of life emerged as the fathers reflected on the events around the preterm birth and their baby's seemingly precarious hold on life. Was their baby going to be okay? As the time for discharge approached, the men experienced mixed feelings. They were glad finally to be taking their baby home but, because discharge meant assuming full-time responsibility for their baby's welfare, uncertainty about the quality of fathering arose. Would they be able to keep their baby safe?

When faced with a situation (ominous pregnancy-related problems, a preterm

infant with complex care needs) that was beyond their capabilities, the men handed-over care to the healthcare professionals. Like the ancient Chinese philosophy of yin and yang, handing-over was simultaneously negative and positive. The yin of handing-over was the losses that had to be endured. In handing-over, the men relinquished personal control to the healthcare professionals. Clearly, for the fathers in this study, the neonatologist and the NICU nurses were in control of their baby throughout the entire hospitalization. Loss of personal control was associated with powerlessness, revealed as anger, but only in the interview setting. Feeling vulnerable, the men rarely shared the intensity of their negative feelings with the healthcare professionals. Loss of personal control was also associated with the frustration of waiting - waiting to go home, waiting to visit their baby, waiting to talk to the doctor, and waiting for the nurse.

The yang of handing-over was the opportunity the men gained to work through their feelings and to develop hope. The men experienced relief that their loved ones were safe in "good hands". Handing-over allowed time to work through their uncertainty, primarily the uncertainty associated with the survival of their baby. Working through involved pursing knowledge, seeking hope for a future and learning to father within the NICU.

Integration of Findings

Many of the findings of this study are consistent with earlier research. In this section, the findings of this study are compared first to earlier quantitative research and then to qualitative research focussing on parental uncertainty. Then, the findings are discussed in relation to the nursing theory of uncertainty in illness (Mishel, 1988)

Comparison to Previous Quantitative Studies

Using a sample of parents, primarily mothers whose children were hospitalized on general pediatric units, Mishel (1983) conducted the original nursing research on parental uncertainty. The findings of the current study extend Mishel's work in the following ways. First, findings on the uncertainty of fathering a premature infant bear similarities to the content of Mishel's Parent Perception of Uncertainty Scale which

identified unpredictability, unfamiliarity and lack of information as factors increasing the degree of uncertainty. The current study revealed an additional predictive dimension of uncertainty, specifically, the pace of change. The findings in this study uncovered a relationship between the pace of change and the degree of uncertainty, that is the faster the pace of change, the more uncertainty experienced.

Second, the findings of this study revealed a relationship between uncertainty and parenting behaviors. Uncertain about the survival of their infant, some men distanced themselves both emotionally and physically from their premature baby. Similarly, the uncertainty associated with the unfamiliar environment of the NICU inhibited paternal-infant interaction. In exploring the experiences of parents whose child was hospitalized in a pediatric intensive care unit, Turner, Tomlinson and Harbaugh (1990) also reported that feelings of uncertainty inhibited parents from interacting with their child.

A final aspect of uncertainty not identified in Mishel's (1983) research was the men's search for a cause for the unexpected change in events. The men examined the past events for a possible cause of the preterm birth. When the cause was unknown, they questioned their own culpability. This finding supports the research of others who similarly reported a relationship between uncertainty and self blame experienced by parents following their child's admission to a pediatric intensive care unit (Comaroff & Maguire, 1981; Lawson, Werner, & Nugent, 1985; Rothstein, 1980; Turner et al., 1990).

As there are differences in the participants in each study, it is relatively easy to explain why the findings in this study differ from Mishel's (1983) research. The children in Mishel's study primarily were admitted to general pediatric units and therefore it is likely that their illnesses were not life-threatening. In contrast, some of pregnancy-related problems described in the current study seriously threatened the life of the pregnant woman, the fetus or both. Further, compared to the fathers in this study, the parents in Mishel's study had older children and could be assumed to be already attached to their children.

In another study designed to identify the stressors and coping strategies of fathers following the diagnosis of childhood cancer, Cayse (1994) reported the most common stressors were "wondering what my child's future is likely to be" and "my child's health". This finding is consistent with the uncertain present and uncertain future experienced by the fathers in the current study. Another consistent finding from Cayse's work was the predominance of problem-focussed coping strategies (obtaining information, looking at options, asking questions) compared to emotion-focussed strategies. This preference by men for problem-focussed strategies has been reported by others (Perehudoff, 1990).

Using the Parent Perception of Uncertainty Scale (Mishel, 1983)and the Jalowiec Coping Scale (Jalowiec, Murphy, & Powers, 1984), Sterken (1996) studied the uncertainty experienced by fathers following the diagnosis of childhood cancer. Sterken's findings were consistent with the present study. Similar coping strategies (optimism, evasion of emotional expression) were used to manage the father's uncertainty with childhood illness. Intense uncertainty was associated with a decrease in the father's cognitive functioning. In both studies, there was a relationship between time and uncertainty; overtime, uncertainty lessened. The qualitative data of the present study extended Sterken's work in the following ways. The use of optimism as a coping strategy was described by the fathers as their need to be strong for their wives. The fathers indicated that their declining rate of visitation to the NICU was related to boredom, decreased uncertainty about the infant's survival and a lack of opportunity for caretaking activities. Although helpful in relieving emotional energy, crying was a private affair for the fathers. In contrast to Sterken's findings, there was no support in this study for a relationship between paternal age and uncertainty. This difference may be accounted for by the relative homogeneity of age among the fathers in the current study.

Comparison to Previous Qualitative Studies

The qualitative experience of uncertainty experienced by parents, primarily mothers, whose children have either an acute and a chronic illness has been described

by numerous researchers (Brett & Davies, 1988; Burkhart, 1993; Hinds et al., 1996; MacDonald, 1995; MacDonald, 1996; Simon & Smith, 1992; Sparacino et al., 1997; Turner et al., 1990). Only two qualitative studies were located that examined uncertainty from a paternal perspective (McKeever, 1981; Sabbeth, 1984). As no published studies focussing on the paternal experience following preterm birth were identified, the findings of the current study add to the body of knowledge of paternal uncertainty.

The findings of this research are consistent with other qualitative work which described the experience of parental uncertainty and the process of managing uncertainty. Parental uncertainty has been described as "an exquisitely heightened sense of vulnerability, accompanied by a compelling need to know the unknowable future" (Cohen & Martinson, 1988) and a time of "waiting and not knowing" (Clarke-Steffen, 1993). These earlier descriptions of parental uncertainty are congruent with the findings of the current study. Because of the preterm birth, the fathers faced an uncertain present and an uncertain future. They described their uncertainty as "carrying a big weight on your shoulders", of being on "pins and needles", of being "left in the shaded area" and of being in a "highly sensitive state".

Earlier qualitative studies describing how parents cope with unexpected childhood illness are consistent with the current study. In his classic study on childhood polio, Davis (1964) described how parents experienced the transition from a stable, pre-illness world to an unstable, uncertain world. The sequential steps in the transition were (a) an initial parental appraisal of the illness symptoms using minimally threatening explanatory framework, (b) the appearance overtime of incongruities between the symptoms and the explanatory framework, (c) subsequent efforts by the parents to seek assistance from the health professional, (d) the diagnosis of polio, and (e) a reappraisal of the symptoms as threatening.

In her examination of childhood cancer, Cohen (1995b) described a similar parental experiential process. The three stages in the process were: lay explanatory, legitimating, and medical diagnostic. The lay explanatory stage began with the parents

becoming consciously aware of their child's illness symptoms. The duration of this stage varied with the success of the strategies used to allay the seriousness of the symptoms. The strategies included retrieving similar instances, normalizing, and waiting it out. Once the problem was recognized as beyond parent capabilities, medical assistance is sought.

These processes, as described by Davis (1964) and Cohen (1995b) provide an explanatory framework for understanding the process of handing-over, as described in the current study. When the expectant fathers were successful in downplaying the seriousness of untoward symptoms, pregnancy-related problems were viewed as benign. However, when pregnancy-related problems, such as vaginal bleeding or the birth of a baby with complex care needs, clearly exceeded lay management, the men reappraised the seriousness of the situation and handed-over care of their loved ones to the health professionals.

Brett and Davies (1988) described a three stage appraisal process used by parents within the context of childhood leukemia: alarm; vigilance; and relaxed vigilance. In the first stage, parents became alarmed when symptoms of childhood illness emerged and, like the men in the present study, they sought the advice of healthcare professionals. When the unexpected occurred, that is, the diagnosis of leukemia, emotional chaos results. In the process described by Brett and Davies, movement beyond the alarm stage depended on the provision of information by health professionals. Similarly, for the men in this study, the quality and quantity of information provided by health professionals influenced the intensity of uncertainty associated with the preterm birth experience. In the second stage identified by Brett and Davies, parents experienced an emotional roller coaster ride between hope and despair as their child experienced setbacks in their response to treatment. This emotional roller coaster ride was also described by the men in the current study. Relaxed vigilance, the third and final stage in the process described by Brett and Davis, was experienced after years of living with the uncertainty of childhood leukemia. This temporal dimension to uncertainty was also experienced by the men in the current

study. With the passage of time, the intensity of uncertainty lessened and the fathers incorporated uncertainty into fathering the prematurely born infant.

Although of longer duration, the uncertainty experienced by parents during the pre-diagnostic stage of childhood cancer (Clarke-Steffen, 1993) is similar to the uncertainty experienced by the men in the current study. In both studies, parents experienced an uncertain present and an uncertain future. The diagnostic uncertainty of "waiting and not knowing" was extremely difficult for parents. Uncertainty precipitated negatively toned emotions including helplessness and vulnerability. These feelings were particularly difficult for the men in the current study. Because they felt a need to be strong during the crisis of preterm birth, some men did not share their feelings with their partners. Sabbeth (1984) reasoned that this difficultly is the result of social stereotypes that promote male achievement and problem solving and inhibit men's emotional expression.

The findings of this study also extend the work of Turner et al. (1990) on the uncertainty experienced by parents whose child was hospitalized in a pediatric intensive care unit. In the current study, uncertainty about the survival of their infant inhibited some fathers from connecting emotionally with their newborn babies. Also, the boundary struggles between nurses and parents described by Turner et al. were not as apparent in the current study. There are several possible explanations for the differences in the findings. In contrast to the parents in the study by Turner et al., these fathers of infants in NICU may not have felt the same degree of parental displacement by the nurses because the paternal role had not yet been developed. Recognizing the preterm infant's delicate nature and being fearful of harming their baby, these fathers were comfortable leaving infant caretaking in the "good hands" of the NICU nurses. There is an alternative explanation. In contrast to the unlimited visiting policy in the study by Turner et al., access to the preterm infant was controlled by the NICU nursing staff. Fearing that their complaints could negatively impact on their baby's care, the fathers were reluctant to voice their concerns to the nursing staff.

In summary, the findings of the current study are consistent with earlier

research exploring the experience of parents during childhood illness and add to the growing body of knowledge on parental uncertainty. In particular, this study adds a much needed paternal perspective.

A Theoretical Perspective

The nursing theory of uncertainty in illness (Mishel, 1988) has an emergent fit with these findings. This middle range theory explains how individuals cognitively process illness-related stimuli and construct meaning of the illness event.

Mishel (1988) defined uncertainty as a "cognitive state created when a person cannot adequately structure or categorize an event due to lack of sufficient cues." According to this theory, three variables influence the experience of uncertainty: the nature of the health problem; the individual's cognitive abilities; and the resources assisting the individual's understanding of the health problem. Uncertainty is experienced when the health problem is perceived as ambiguous, unfamiliar and unexpected, when the individual's ability to process information is hampered and when there are insufficient resources to assist interpreting the problem.

The findings of my study support the theoretical linkages proposed by Mishel (1988). Because so much of the preterm birth experience was unfamiliar and unexpected, feelings of uncertainty were strong for the fathers in this study. The findings support Mishel's proposed relationships among ambiguity, familiarity, expectancy and uncertainty. The more ambiguous, unfamiliar and unexpected the pregnancy-related problem, the more uncertainty experienced by the men in this study.

These findings of my study indicate that additional characteristics of the health problem are related to uncertainty. The degree of threat to the mother, the infant or both influenced the intensity of uncertainty. Compared to the minor pregnancy-related problems, major problems such as profuse vaginal bleeding and maternal convulsions created intense uncertainty. Visibility of the problem was another factor related to uncertainty, particularly during paternal assessment of infant well-being. As discussed in the findings, assessment of infant well-being was based on external features such as pink skin colour, cry, spontaneous movement and "ten fingers and ten toes". When the

men observed these characteristics in their newborn baby, their uncertainty about infant survival was low. However, when the healthcare professional, using different assessment criteria, transferred the newborn to the intensive care unit, confusion reigned and uncertainty surged. This relationship between problem visibility and uncertainty is further supported by the perceptibility of the pregnancy-related problem. Imperceptible problems, maternal hypertension for example, were associated with less uncertainty than were perceptible problems like vaginal bleeding or seizures.

The findings of my study also support the relationship proposed by Mishel (1988) between the individual's cognitive ability and uncertainty. Cognition was hampered by several factors. A reduced cognitive capacity was most pronounced for fathers during rapidly changing events. Fathers had the most difficulty in processing information when the preterm birth experience was characterized by a major pregnancy-related problem, an emergency cesarean section, non-participant birth role and immediate transfer of the preterm infant to the NICU. In this circumstance, fathers had considerable difficulty recalling the details of their first visit to the NICU. Another factor reducing the men's information processing abilities was the environmental noise within the NICU. The men were most sensitive to noise during the initial visits to the NICU, a time of intense uncertainty.

The current study supported Mishel's (1988) proposed linkages between resources and uncertainty. Physicians and nurses were important sources of formal support. As the overall authority about the medical management of preterm infants, uncertainty lessened when the neonatologist explained the events surrounding the preterm birth and provided the fathers with information about the infant's diagnosis and management. The nurses played a similar role. As interpreters, they clarified the information provided by the neonatologist and demystified the preterm infant's ambiguous behavior. Nurses introduced the father to the intensive care environment by explaining the rules and regulations and the complex equipment. Assisting the men to learn to father their "tiny mass of humanity" (Kersten, 1984), the nurses acted as teachers and this lessened the uncertainties associated with infant caretaking. Viewed

as the authority about the preterm infant's minute by minute progress, the nurses also strengthened the men's understanding of their baby's progress by providing frequent updates on the infant's condition.

The findings also support Mishel's (1988) contention that an individual's understanding of a health-related problem is weakened and uncertainty increased by conflicting information between healthcare professionals. This relationship was most evident when physicians, and not nurses, were involved. This disparity may be explained in part by the ultimate authority status given to physicians by lay persons. According to Mishel uncertainty is decreased by trust and confidence in the healthcare professionals. Like other parents in comparable situations (MacDonald, 1995; MacDonald, 1996) these men had a "naive trust"(Seppanen, Kyngas, & Nikkonen, 1997) or a "blind faith" (Pask, 1995) in the healthcare professionals. When the care of their pregnant partner or preterm baby was handed-over to the healthcare professionals, the men experienced considerable relief in knowing their loved ones were "safe in good hands." Any evidence that their loved ones were receiving less than optimal care or when information conflicted between healthcare professionals, the men's trust decreased and uncertainty increased.

Mishel (1988) proposed that informal supports reduce uncertainty. Wives in this study were an important source of support for their husbands during the days, weeks and sometimes months of the infant's hospitalization. Because the men resumed full-time work responsibilities, fathers visited less often than mothers. This disparity in frequency of parental visiting has been noted by others (Brown et al., 1989; Levy-Shiff et al., 1990; Philipp, 1983). As the more frequent visitor, wives provided important updates on the baby's progress. Because the wives had more exposure to the NICU environment and preterm infant caretaking, they acted as interpreters and teachers for their husbands and helped reduce uncertainty.

Other NICU families and their preterm infant also emerged as important sources informal support. Much of the interaction between the men and the other parents, mostly mothers revolved around a mutually sharing of experiences. During these

interactions the men gained insight into their particular situation. As the men observed the other infants in the NICU, their uncertainty was reduced by downward comparisons. A final source of informal support was friends and family, particularly those with previous preterm birth experience who could provide information and therefore reduce uncertainty.

In summary, my findings support most of the major theoretical linkages proposed by Mishel's (1988) theory of uncertainty in illness. In the paternal experience of preterm birth, uncertainty was increased when a problem was unexpected, unfamiliar and misunderstood. Both formal and informal supports reduced the uncertainty. New findings included the relationship among uncertainty, problem threat and problem visibility. The more ominous and visible a problem, the more uncertainty the fathers experienced.

Implications for Nursing Practice

This study contributed to better understanding of the paternal experience of preterm birth including how the men experienced an uncertain present and an uncertain future, and how the men work through their uncertainties. As part of their process of reflecting and finding meaning in the preterm birth experience, the men made several recommendations to assist future fathers to work through their own uncertainty. There was a relationship between the length of hospitalization and the number of recommendations made by the father: longer hospitalizations were associated with more recommendations. The recommendations can be grouped into a need for support, recognition of the importance of the father and ways to assist the father to manage uncertainty.

Need for Support

> Somebody there to care to the emotional needs of [the expectant father] . . . even if somebody was beside me saying, [it's] okay. Or even just going in and out [of the birthing room] and they say, okay now they're doing this and this is what's happening. (Ross)

During the process of birth, both parents have needs for nursing care. Paternal needs during the crisis of unexpected emergency cesarean section merit particular

attention. As anxious husbands and expectant fathers, men had an intense need for support. Informal support from family and friends was often not feasible because of the unexpected nature of these birth. As the obstetric staff focus on the needs of the maternal-fetal dyad during the birth, the NICU nurse could provide support for the father and in doing so, establish a therapeutic relationship between the father and the NICU health professionals.

Recognition of the Father

Healthcare professionals working in obstetric and neonatal intensive care settings need to recognize the importance of the fathers. Given the principles of family-centred care (National Center for Family-Centered Care, 1990) and the changing nature of the paternal role in child-rearing (Pruett, 1987), childbirth can no longer to be defined as primarily a woman's experience with the man playing an insignificant role. Specifically, the continuance of policies excluding fathers from the delivery room need to be examined. May and Sollid (1984) argue that these policies were based on staff convenience and physician preference rather than on any objective assessment of risk and benefit. Many writers have argued for the man's presence as important for the development of the paternal role (Cain, Pederson, Zaslow, & Kramer, 1984; Fawcett, 1981; Lee, 1986; Ott, Wicker-Sutton, & Friedman, 1981). There is also evidence that the husband's experience during the birth may directly affect his partner's perception of the event and ultimately the quality of the postnatal adaption of the whole family (Cranley, Hedahl, & Pegg, 1983). Further, there is a logical argument that husbands can play an important role in helping their wives conceptualize the birthing experience if they are present at the birth when their wife has received a general anaesthetic.

Following the birth, fathers, like mothers, need to talk about the events leading up to the admission of the preterm infant to the NICU. In this study, before the fathers could face the present and the future, they needed to understand the past. Nurses should provide opportunity for the men to talk through their birth story. From my clinical practice, I have found simply asking the new father "How did you come to

have your baby early?" unleashes a lengthy story and provides an opportunity to clarify misunderstandings.

Because parenting continues to be defined by many as mothering, the needs of the father are often secondary to the mother's needs. Fathers need to be recognized as equally important as mothers within the NICU. Face to face interactions between healthcare professionals and the parents should include the father. By this I mean, the healthcare professional should speak directly to the father, not just to the mother. Infant identification cards visible at the bedside should identify the name of the mother *and* the father. Infant caretaking teaching should include both parents, not just the mother. Before directly involving fathers in caretaking, careful assessment of their abilities and comfort levels should be conducted. Knowledge deficits may increase paternal anxiety and avoidance of caretaking opportunities.

It is important for nurses to recognize the men's preference to be active in their fathering. Creative thinking will uncover many possibilities. For example, if the mother is pumping breastmilk, fathers could be placed "in charge" of managing this "life blood".

Whenever possible, the fathers need to spend more time alone with their babies and away from the intensity of the NICU and crowds of healthcare professionals. The fathers in this study believed that time alone would facilitate the development of father-infant relationship, enhance fatherly feelings and decrease their uncertainty about the quality of their fathering following discharge.

<u>Easing the Uncertainty</u>

The uncertainty described by the men in this study is clinically significant for nurses. Given the identified relationships among outcome predictability, familiarity, pace of change and quality of information and uncertainty, a number of nursing interventions would ease paternal uncertainty.

When individuals know when and under what circumstances an event will occur and have some understanding of the event and possible outcomes, they will experience less stress, anxiety, and tension than those experiencing similar circumstances with

insufficient information (Miller, 1980). Thus, when a pregnancy is classified as high risk, but the birth is not imminent, a tour of the NICU should be offered to the expectant father. For fathers residing some distance from the hospital, a tour of the NICU could be video taped for home viewing. Fathers should be told what is likely to happen during and after the birth, how soon they can get to see their baby, and how accessible their infant will be. A preterm infant of similar gestation age should be shown to the fathers. Teaching about the typical preterm infant behavior and behavioral cues should begin antenatally.

Especially in the first days following the preterm birth, consistency of nursing care assignment would provide stability within an unfamiliar environment and an unexpected change of events. All the men in this study believed consistency of staffing would improve care for the premature infant and assist the entire family, not just the father, during the hospitalization.

Given the uncertainty associated with the unreadable behavior of the preterm infant, nursing interventions should assist fathers in understanding their baby's behavior. Nurses should focus on the preterm infant's capabilities rather than the infant's inabilities. Kersten (1984) writes "[Fathers] must be reassured that their infant has the necessary equipment and capabilities to function out the uterus but will require special assistance for a while. Recognizing and accepting the infant's capabilities . . . is a first step in accepting and loving the premie baby" (p. 531). As the primary caregivers to hospitalized preterm infants, NICU nurses are ideally situated to share their knowledge of the infant's individual temperament with the father. Further, nurses need to teach fathers about preterm infant behavioral states and their invitational and stress cues (Kearns, 1996). This information would facilitate fathering in the NICU.

Given the relationships among major pregnancy-related problems, paternal information processing abilities and uncertainty, healthcare professionals working in the NICU need to recognize that many fathers will have difficulty in understanding the events. These findings support Harrison's (1997) argument that "[NICU] parents need to hear information in many different ways, using many different words and terms, in

as many different formats as possible to achieve genuine understanding". When cognitive abilities are impaired by stress, limited information should be given and repeated frequently.

Nurses need to be aware of the role that illusion and hope may play in the father's experience. Mishel (1988) suggests that health professionals may provide patients with more information than requested and thus, destroy their illusions. Nurses need to ask themselves: Is this father using illusion to maintain hope? Perhaps rather than flooding fathers with details, nurses ought to inquire as to what details the fathers want or wait until the father inquires. A primarily care model for the delivery of nursing services would facilitated consistent assessment of the father's psychological well-being and coping strategies.

Because uncertainty is associated with hypervigilant behavior, health professionals ought to be careful about conversations within the NICU as fathers may misinterpret what they hear. In moving from protocol-based care to relationship-based care, Als (1996) urged NICU nurses to "be present to your professional responsibilities" and to be aware of the impact of their words on the parents who are listening with the NICU.

Implications for Future Research

This study provides a beginning understanding of the paternal experience of preterm birth and fathering an infant in NICU. This study needs to be replicated with a more heterogenous sample of fathers. For example, how do fathers from different racial and ethic backgrounds experience preterm birth? How do adolescent fathers or more mature fathers experience preterm birth? Research that focusses specifically on the interaction patterns between fathers and their preterm infants in NICU would be useful. The relationships among illusions, uncertainty and hope need to be explored further. Finally, this research focussed on the period from the emergence of pregnancy-related problems to infant discharge from the hospital. As an evolving process, paternal adaption to an uncertain future needs to be studied longitudinally over the first year of life. What happens to the uncertainties associated with preterm birth

over time? How do fathers manage their uncertainties about of quality of life and quality of fathering as the infant matures? These questions need to be addressed in other studies.

Strengths and Limitations of the Study

The participants in this study were selected using a purposive sampling method. Given their personal experience with a preterm birth and their experiences in NICU during the hospitalization of their prematurely-born infant, the fathers were able to provide information relevant to the aims of this study. The fathers were diverse in their fathering experience, experience of preterm birth, level of education and income level. Diversity was also apparent among the gestational ages of the premature infants. This variability strengthened the findings by permitting generalization to a wider population of fathers. Most fathers were interviewed twice with a distinct period of time between the interviews. This spacing strengthened the study by allowing the fathers to digest and reflect on their experiences. The second interview was a valuable opportunity to clarify and verify data. My knowledge and experience in caring for prematurely born infants and supporting their families as they coped with the unexpected early birth helped to develop theoretical sensitivity for interviewing, coding and analysis of the data and thus, strengthened the study.

However, all fathers in this study were Caucasian and there is a lack of ethnic diversity among the participants. Whether the preterm birth experience is different for fathers from differing racial and ethnic backgrounds is uncertain. The findings are also limited to those fathers whose prematurely born infants survived the early birth and were discharged home. It was not always possible to completely code the data between individual interviews. However, all the interviews were reviewed to identify themes before conducting the next scheduled interview. In this way, each interview provided guidance for the conduct of the following interview.

In summary, the findings of this study have implications for nursing practice and for future research. From a practice perspective, fathers of prematurely born infants need support as they grapple with an uncertain present and future. They also

need the relevance of their role as fathers to be recognized by the health professionals. Nurses are ideally situated to implement interventions designed to meet the specific needs of fathers. From this foundational work, future research should focus on enhancing our understanding of the paternal experience. Specific areas include a more heterogenous sample of fathers and research focussing on the interaction patterns between fathers and their preterm infants. Finally, the strengths and limitations of this study were identified.

Table 1

Pregnancy-related Problems: Paternal Description Versus Medical Diagnosis

Paternal Description	Medical Diagnosis
Minor Problems	
blood pressure problems	pregnancy induced hypertension
the baby was breech	breech fetal position
the baby never really kicked a lot	congenital abnormality
Major Problems	
a bit of bloody [vaginal] show	abruptio placenta
blood everywhere	abruptio placenta
serious [vaginal] discharge	rupture of maternal membranes
bad [abdominal] pains	premature labour
[maternal] convulsions	eclampsia

Table 2

Characteristics of the Pregnancy-Related Problems

Properties	Property Dimensions	
Onset of the problem	Sudden	Gradual
Visibility of the problem	Highly Visible	Less Perceptible
Partner's reaction	Fear	Anxiety
Simple explanation for the problem	No	Yes
Ominousness of the problem	Serious Threat	Less Serious Threat
Monitoring by health professionals	Unaware	Ongoing Monitoring

Table 3
Relationship Among Method of Delivery, Method of Pain Control and Paternal Presence During the Birth

	Paternal Presence at Birth	
Method of Delivery + Method of Pain Control	Present	Not Present
Vaginal delivery + Epidural anesthesia (n=2)	2	0
Cesarean section + Epidural (n=4)	3	1
Cesarean section + General anesthetic (n=2)	0	2

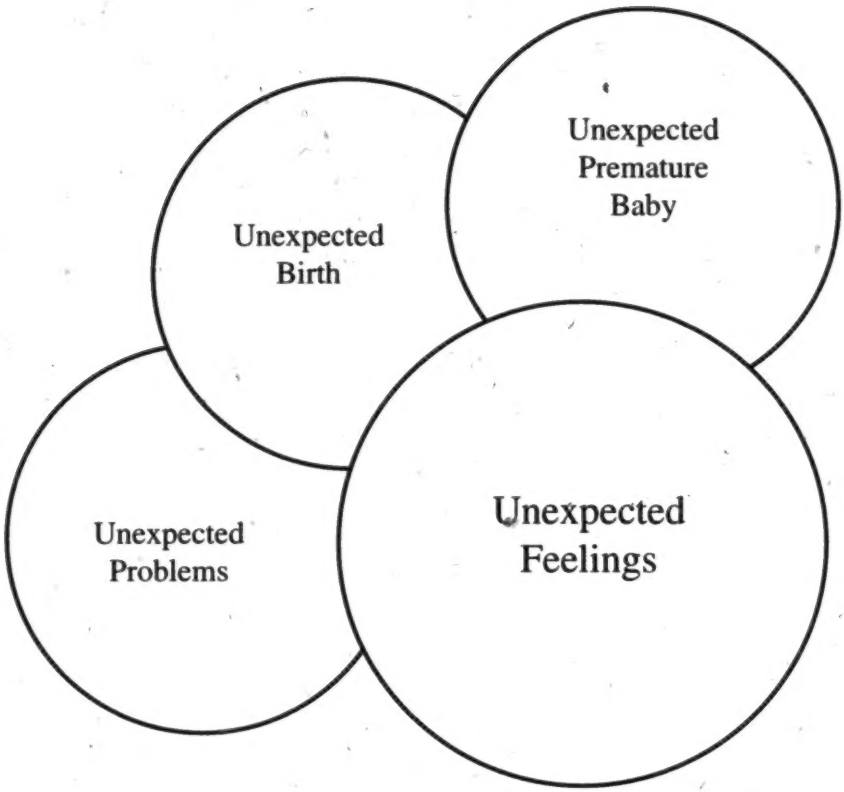

Figure 1. Experiencing the Unexpected

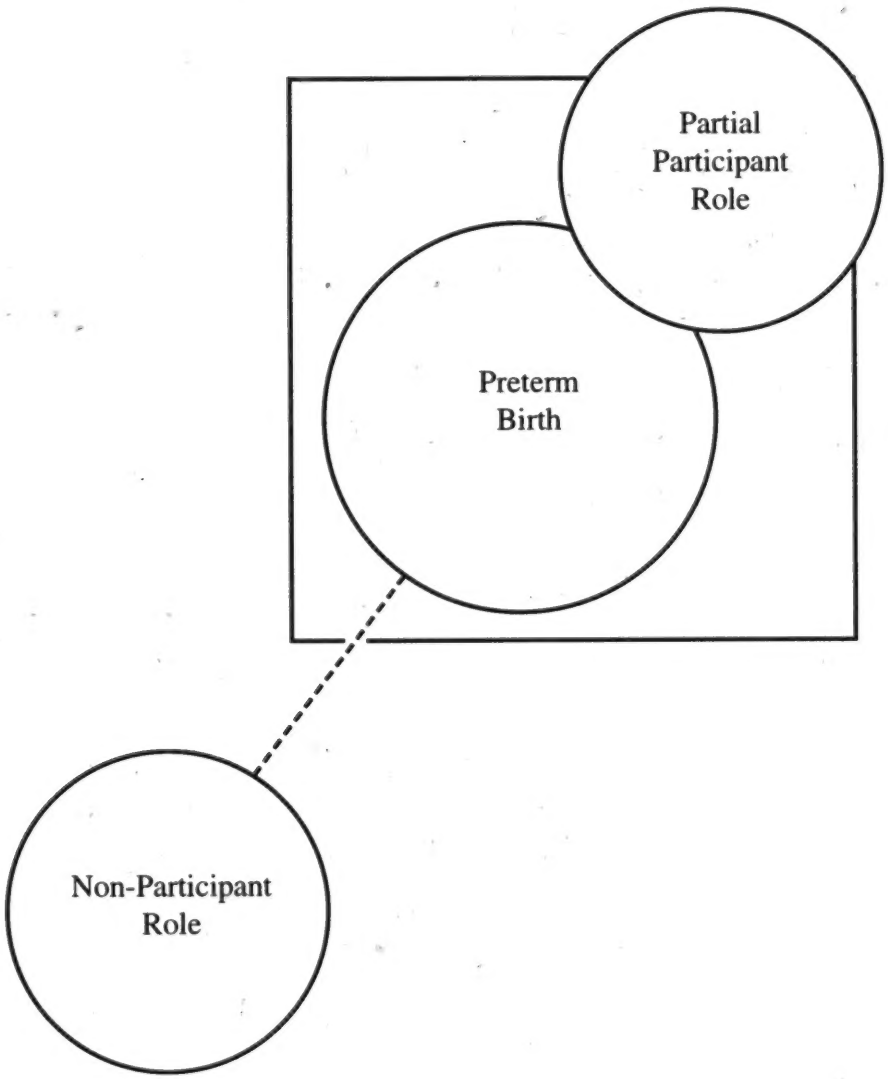

Figure 2. Unexpected Birth Roles

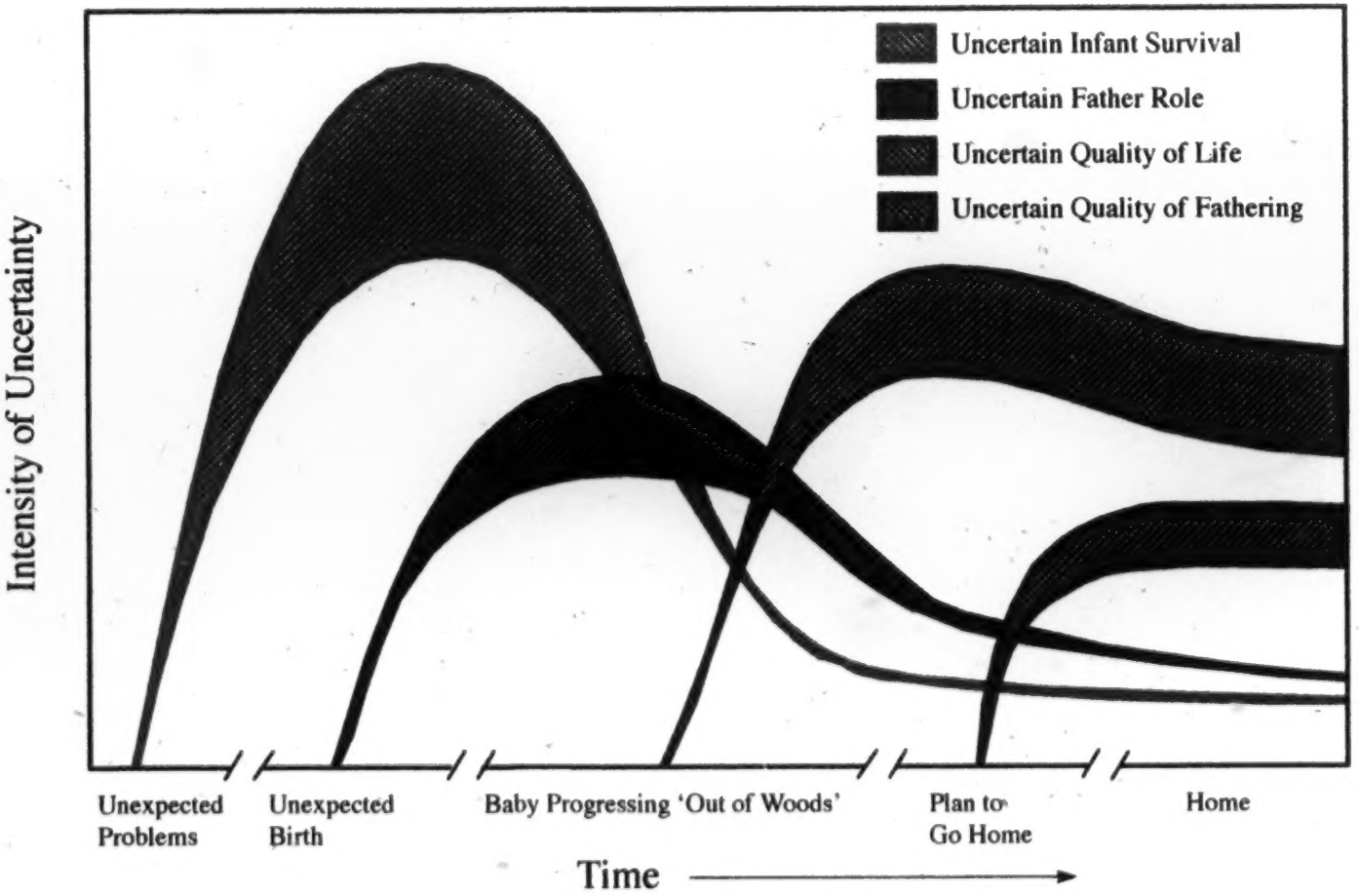

Figure 3. Fathers and Preterm Births: Types and Intensity of Uncertainty

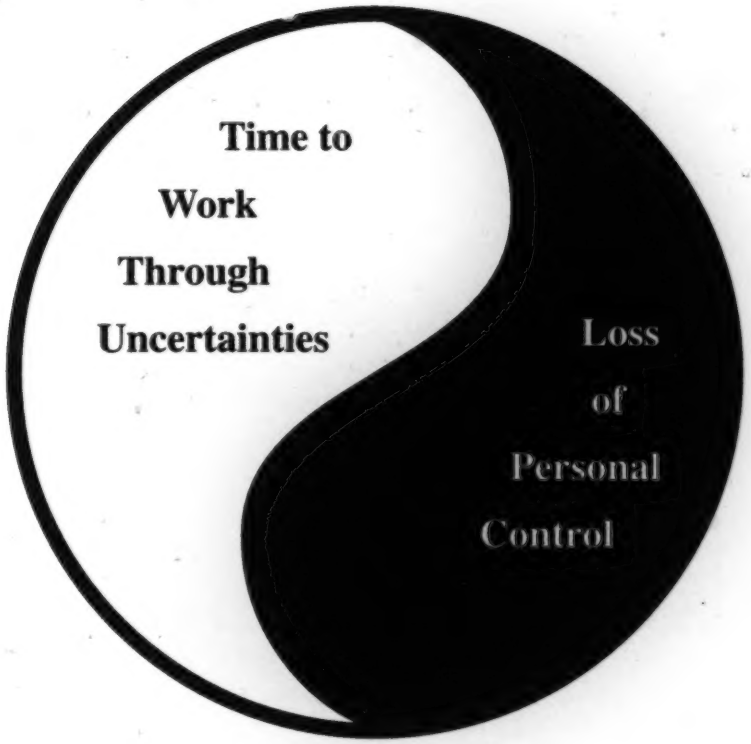

Figure 4. The Yin and Yang of Handing Over

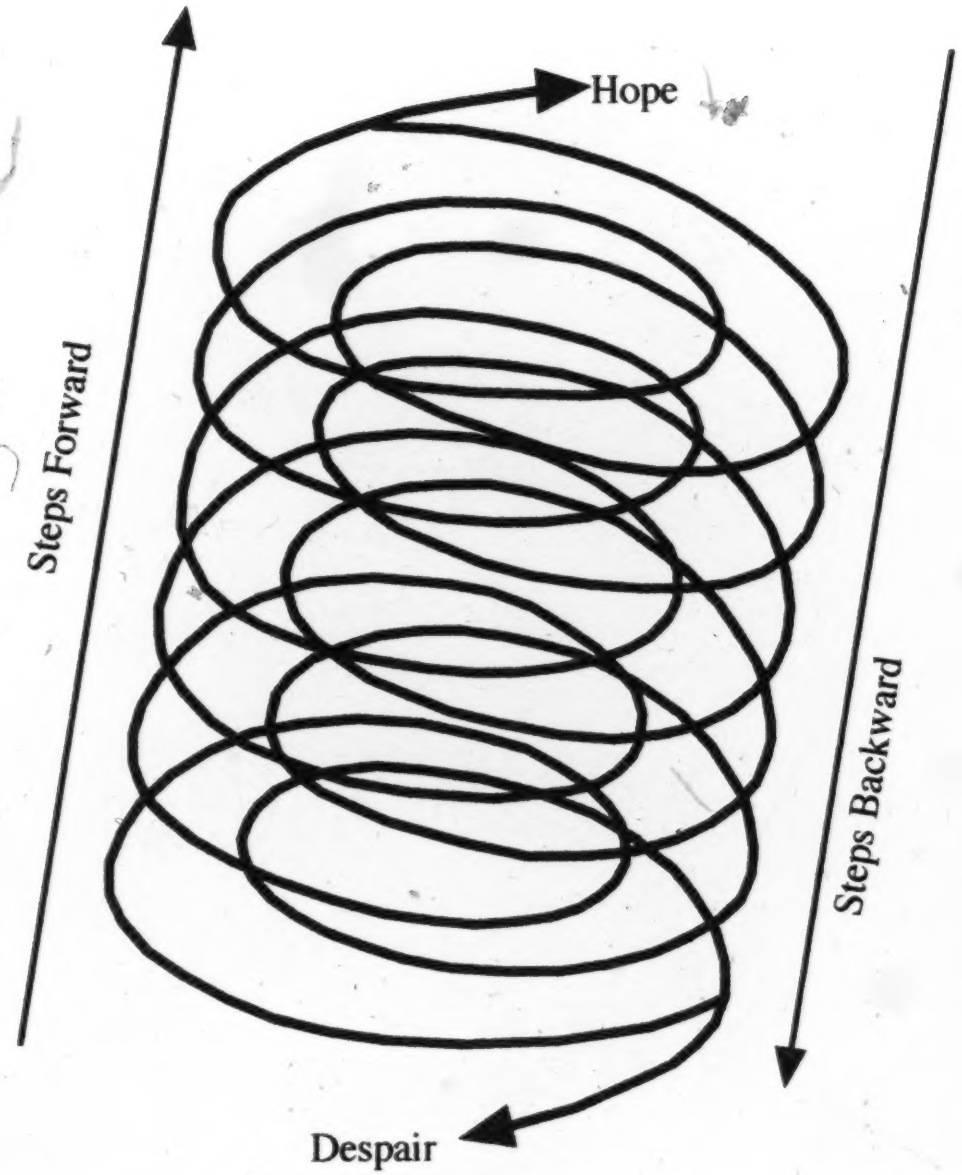

Figure 5. Roller Coaster Ride Between Hope and Despair

REFERENCES

Affleck, G., & Tennen, H. (1991). The effects of newborn intensive care on parents' psychological well-being. Children's Health Care, 20(1), 6-14.

Affleck, G., Tennen, H., & Rowe, J. (1990). Mothers, fathers, and the crisis of newborn intensive care. Infant Mental Health Journal, 11(1), 12-25.

Affleck, G., Tennen, H., & Rowe, J. (1991). Infants in crisis: How parents cope with newborn intensive care and its aftermath. New York: Springer-Verlag.

Affleck, G., Tennen, H., Rowe, J., & Higgins, P. (1990). Mothers' remembrances of newborn intensive care: A predictive study. Journal of Pediatric Psychology, 15(1), 67-81.

Als, H. (1996). Moving from protocol-based care to relationship-based care: Emotional sequelae of the NICU experience for infants and parents. Developmental Interventions in Neonatal Care. Dublin, CA: Contemporary Forms.

Anderson, A. (1996a). The father-infant relationship: Becoming connected. Journal of the Society of Pediatric Nurses, 1(2), 83-92.

Anderson, A. (1996b). Factors influencing the father-infant relationship. Journal of Family Nursing, 2(3), 306-324.

Antle, K. (1975). Psychologic involvement in pregnancy by expectant fathers. Journal of Obstetric, Gynecologic, and Neonatal Nursing, 4(4), 40-42.

Aradine, C., & Ferketich, S. (1990). The psychological impact of premature birth on mothers and fathers. Journal of Reproductive & Infant Psychology, 8(2), 75-86.

Bailey, W. (1994). Comparison of infants' reunion with fathers and mothers. Psychological Reports, 75(3), 1227-1234.

Bawden, N. (1974). George beneath a paper moon . London: Allen Lane.

Benfield, D., Leib, S., & Reuter, J. (1976). Grief response of parents after referral of the critically ill newborn to a regional center. New England Journal of Medicine, 294, 975-978.

Blackburn, S., & Lowen, L. (1986). Impact of an infant's premature birth on the grandparents and parents. Journal of Obstetric, Gynecologic and Neonatal Nursing, 15(2), 173-178.

Bowen, S., & Miller, B. (1980). Paternal attachment behavior as related to presence at delivery and preparenthood classes: A pilot study. Nursing Research, 29(5), 307-311.

Bowlby, J. (1969). Attachment and loss: Attachment. New York: Basic Books.

Brady-Fryer, B. (1994). Becoming the mother of a preterm baby. In P. A. Field, & P. Marck (Eds.), Uncertain motherhood: Negotiating the risks of the childbearing years (pp. 195-222). London: Sage.

Brett, K., & Davies, E. (1988). "What does it mean?": Sibling and parental appraisals of childhood leukemia. Cancer Nursing, 11(6), 329-338.

Brink, P., & Wood, M. (1989). Advanced design in nursing research. In P. L. Munhall Qualitative Designs (pp. 161-179). Newbury Park: Sage.

Brooten, D., Gennaro, S., Brown, L., Butts, P., Gibbons, A., Blackwell-Sachs, S., & Kuma, S. (1988). Anxiety, depression and hostility in mothers on preterm infants. Nursing Research, 37(40), 213-216.

Brown, P., Rustia, J., & Schappert, P. (1991). A comparison of fathers of high-risk newborns and fathers of healthy newborns. Journal of Pediatric Nursing, 6(4), 269-273.

Brown, L., York, R., Jacobsen, B., Gennaro, S., & Brooten, D. (1989). Very low birth-weight infants: Parental visiting and telephoning during initial infant hospital. Nursing Research, 38(4), 233-236.

Burkhart, P. (1993). Health perceptions of mothers of children with chronic conditions. Maternal-Child Nursing Journal, 21(4), 122-129.

Cain, R., Pedersen, F., Zaslow, M., & Kramer, E. (1984). Effects of the father's presence or absence during a cesarean delivery. Birth: Issues in Perinatal Care and Education, 11(1), 10-15.

Canadian Nurses' Association. (1994). Ethical guidelines for nurses in research involving human participants (2nd ed.). Ottawa: Canadian Nurses' Association.

Caplan, G., Mason, E., & Kaplan, D. (1965). Four studies of crisis in parents of prematures. Community Mental Health Journal, 1(2), 149-161.

Casteel, J. (1990). Affects and cognitions of mothers and fathers of preterm infants. Maternal-Child Nursing Journal, 19(3), 211-220.

Cayse, L. (1994). Fathers of children with cancer: A descriptive study of their stressors and coping strategies. Journal of Pediatric Oncology Nursing, 11(3), 102-108.

Ceronio, C., Dorfling , C., & Nolte, A.. (1995). The experiences of parents where pregnancy ended in an unplanned caesarean section. Curationis, 18(4), 48-51.

Chenitz, W., & Swanson, J. (1986). From practice to grounded theory: Qualitative research in nursing. Menlo Park, CA: Addison-Wesley.

Clarke-Steffen, L. (1993). Waiting and not knowing: the diagnosis of cancer in a child. Journal of Pediatric Oncology Nursing, 10(4), 146-153.

Cohen, M. (1995a). The triggers of heightened parental uncertainty in chronic, life-threatening childhood illness. Qualitative Health Research, 5(1), 63-77.

Cohen, M. (1995b). The stages of the prediagnostic period in chronic, life-threatening childhood illness: a process analysis. Research in Nursing & Health, 18(1), 39-48.

Cohen, M., & Martinson, I. (1988). Chronic uncertainty: its effect on parental appraisal of a child's health. Journal of Pediatric Nursing, 3(2), 89-96.

Coleman, A., & Coleman, L. (1971). Pregnancy: The psychological experience. New York: Herder and Herder.

Cranley, M. (1981). Roots of attachment: The relationship of parents with their unborn. Birth Defects, 17(6), 59-83.

Cranley, M., Hedahl, K., & Pegg, S. (1983). Women's perceptions of vaginal and cesarean deliveries. Nursing Research, 32(1), 10-15.

Cronenwett, L. (1985). Network structure, social support, and psychological outcomes of pregnancy. Nursing Research, 34(2), 93-99.

Cronenwett, L., & Newmark, L. (1974). Fathers' responses to childbirth. Nursing Research, 23(3), 210-217.

Davis, F. (1964). Passage through crisis: Polio victims and their families. New York: Bobbs-Merrill.

Ebrey, P. (1981). Chinese civilization and society: A sourcebook. London: Collier Macmillian.

Fawcett, J. (1981). Needs of cesarean birth parents. Journal of Obstetric and Gynecological Nursing, 10, 372-376.

Fein, R. (1976). Men's entrance to parenthood. The Family Coordinator, 25(4), 341-348.

Field, P. A., Marck, P., Anderson, G., & McGeary, K. (1994). Introduction. In P. A. Field, & P. Marck (Eds.), Uncertain motherhood: Negotiating the risks of the childbearing years (pp. 1-14). Thousand Oaks: Sage.

Field, P. A., & Morse, J. (1985). Nursing research: The application of qualitative approaches. Rockville, Maryland: Aspen.

Ford, J., & Reutter, L. (1990). Ethical dilemmas associated with small samples. Journal of Advanced Nursing, 15(?), 187-191.

Fortier, J. (1988). The relationship of vaginal and cesarean births to father-infant attachment. Journal of Obstetric, Gynecologic, and Neonatal Nursing, 17(2), 128-134.

Gale, G., & Franck, L. (1998). Toward a standard of care for parents of infants in the neonatal intensive care unit. Critical Care Nurse, 18(5), 62-74.

Gennaro, S. (1988). Postpartal anxiety and depression in mothers of term and preterm infants. Nursing Research, 37(2), 82-85.

Glaser, B. (1978). Advances in the methodology of grounded theory: Theoretical sensitivity. Mill Valley, CA: Sociological Press.

Glazer, G. (1989). Anxiety and stressors of expectant fathers. Western Journal of Nursing Research, 11(1), 47-59.

Gottwald, S., & Thurman, S. (1990). Parent-infant interaction in neonatal intensive care units: Implications for research and service delivery. Infants and Young Children, 2(3), 1-9.

Greenberg, M., & Morris, N. (1974). Engrossment: The newborn's impact upon the father. American Journal of Orthopsychiatry, 44 (4), 520-531.

Griffin, T. (1990). Nurse barriers to parenting in the special care nursery. Journal of Perinatal and Neonatal Nursing, 4(2), 56-67.

Harrison, H. (1997, February 27). Commentary on intensive care for ELBW/VLBW infants [13 paragraphs]. E-mail to NICU-NET [Online discussion group] (Available E-mail: nicu-net@u.washington.edu Message: get ELBW 97).

Harrison, L., & Woods, S. (1991). Early parental touch and preterm infants. Journal of Obstetric, Gynecologic, and Neonatal Nursing, 20(4), 299-306.

Harrison, M. (1990). A comparison of parental interactions with term and preterm infants. Research in Nursing & Health, 13(3), 173-179.

Henderson, A., & Brouse, A. (1991). The experiences of new fathers during the first 3 weeks of life. Journal of Advanced Nursing, 16(3), 293-298.

Hinds, P., Birenbaum, L., Clarke-Steffen, L., Quargnenti, A., Kreissman, S., Kazak, A., Meyer, W., Mulhern, R., Pratt, C., & Wilimas, J. (1996). Coming to terms: parents' response to a first cancer recurrence in their child. Nursing Research, 45(3), 148-153.

Holditch-Davis, D., & Miles, M. (1997). Parenting the prematurely born child. Annual Review of Nursing Research., 15, 3-34.

Hughes, M., & McCollum, J. (1994). Neonatal intensive care: mothers' and fathers' perceptions of what is stressful. Journal of Early Intervention, 18(3), 258-268.

Hughes, M., McCollum, J., Sheftel, D., & Sanchez, G. (1994). How parents cope with the experience of neonatal intensive care. Children's Health Care, 23(1), 1-14.

Jalowiec, A., Murphy, S., & Powers, M. (1984). Psychometric assessment of the Jaloweic coping scale. Nursing Research, 33, 157-161.

Johnson, S., & Grubbs, J. (1975). The premature infant's reflex behaviors: Effect on the maternal-child relationship. Journal of Obstetric, Gynecologic, and Neonatal Nursing, 4(3), 15-21.

Jones, C. (1981). Father to infant attachment: Effects of early contact and characteristics of the infant. Research in Nursing & Health, 4(1), 193-200.

Jones, C. (1982). Environmental analysis of neonatal intensive care. Journal of Nervous and Mental Disease, 170(3), 130-142.

Jones, L., & Lenz, E. (1986). Father-newborn interaction: Effects of social competence and infant state. Nursing Research, 35(3), 149-153.

Jordan, P. (1990). Laboring for relevance: Expectant and new fatherhood. Nursing Research, 39(1), 11-16.

Kaila-Behm, A., & Vehvilainen-Julkunen, K. (1997). From man to father -- a review of nursing research [finnish]. Hoitotiede, 9 (1), 12-24.

Kang, R. (1991). Early parent-infant attachment. In B. S. Raff, & E. Fiore (Eds.), Early parent-infant relationships: Series 1. The first six hours after birth (2nd ed., pp. 53-58). White Plains, New York: March of Dimes Birth Defects Foundation.

Kearns, S. (1996). Getting acquainted. In J. Zaichkin (Ed.), Newborn intensive care: What every parent needs to know (pp. 45-64). Petaluma, CA: NICU Ink.

Keller, W., Hildebrandt, K., & Richards, M. (1985). Effects of extended father-infant contact during the newborn period. Infant Behavior and Development, 8(3), 337-350.

Kersten, E. (1984). A premature infant joins the family: The OHN as health team member. Occupational Health Nursing, 32(10), 530-533.

Lamb, M. (1980). The development of parent-infant attachments in the first two years of life. New York: Praeger.

Lawson, C., Werner, R., & Nugent, S. (1985). Parental stress during and after pediatric ICU hospitalization. Indiana Medicine, 78(5), 372-375.

Lee, S. (1986). Having a baby by cesarean: An experience for fathers. Social Work in Health Care, 11(3), 41-52.

Levy-Shiff, R., Hoffman, M., Mogilner, S., Levinger, S., & Mogilner, M. (1990). Fathers' hospital visit to their preterm infants as a predictor of father-infant relationship and infant development. Pediatrics, 86(2), 289-293.

Levy-Shiff, R., & Mogilner, M. (1989). Mothers' and fathers' interactions with their preterm infants during the initial period at home. Journal of Reproductive & Infant Psychology, 7(1), 25-37.

Lincoln, Y., & Guba, E. (1985). Naturalistic inquiry. Newbury Park: Sage.

Lynn, O. (1974). The father: His role in child development. Monterey, California: Brooks Cole.

MacDonald, H. (1995). Chronic renal disease: the mother's experience. Pediatric Nursing, 21(6), 520-521.

MacDonald, H. (1996). "Mastering uncertainty:" Mothering the child with asthma. Pediatric Nursing, 22(1), 55-59.

Marshall, C., & Rossman, G. (1995). Designing qualitative research (2nd ed.). Newbury Park: Sage.

Marton, P., Minde, K., & Perrotta, M. (1981). The role of the father for the infant at risk. American Journal of Orthopsychiatry, 51(4), 672-679.

May, J. (1996). Family matters. Fathers: the forgotten parent. Pediatric Nursing, 22(3), 243-246, 271.

May, K. (1982a). Three phases of father involvement in pregnancy. Nursing Research, 31(6), 337-342.

May, K. (1982b). The father as observer. Maternal Child Nursing Journal, 7, 319-322.

May, K. (1991). Interview techniques in qualitative research: Concerns and challenges. In J. M. Morse (Ed.), Qualitative nursing research: A contemporary dialogue. (pp. 188-201). Newbury Park: Sage.

May, K., & Sollid , D. (1984). Unanticipated cesarean birth from the father's perspective. Birth, 11(2), 87-95.

McDonald, D. (1978). Paternal behavior at first contact with the newborn in a birth environment without intrusions. Birth and the Family Journal, 5(3), 123-132.

McKeever, P. (1981). Fathering the chronically ill child. Maternal-Child Nursing Journal, 6, 124-128.

Mercer, R., Ferketich, S., May, K., DeJoseph, J., & Sollid, D. (1988). Further exploration of maternal and paternal fetal attachment. Research in Nursing & Health, 11(2), 83-95.

Miles, M. (1989). Parents of critically ill premature infants: Sources of stress. Critical Care Nursing Quarterly, 12(3), 69-74.

Miles, M., Funk, S., & Kasper, M. (1991). The neonatal intensive care unit environment: sources of stress for parents. AACN Clinical Issues in Critical Care Nursing, 2(2), 346-354.

Miles, M., Funk, S., & Kasper, M. (1992). The stress response of mothers and fathers of preterm infants. Research in Nursing & Health, 15(4), 261-269.

Miller, J. (1980). The family as a system. In J. Miller, & E. Janosik (Eds.), Family focussed care (pp. 3-15). New York: McGraw-Hill.

Mishel, M. (1983). Parents' perception of uncertainty concerning their hospitalized child. Nursing Research, 32(6), 324-330.

Mishel, M. (1988). Uncertainty in illness. Image, 20(4), 225-232.

Mishel, M., & Murdaugh, C. (1987). Family adjustment to heart transplantation: Redesigning the dream. Nursing Research, 36(6), 332-338.

Morse, J. (1994). Designing funded qualitative research. In N. Denzin, & Y. Lincoln (Eds.), Handbook of qualitative research (pp. 220-235). Thousand Oaks: Sage.

Morse, J., & Field, P. A. (1995). Qualitative research methods for health professionals (2nd ed.). Thousand Oaks: Sage.

National Center for Family-Centered Care. (1990). What is family-centered care? Bethesda: Association for the Care of Children's Health.

Nichols, M. (1993). Paternal perspectives of the childbirth experience. Maternal-Child Nursing Journal, 21(3), 99-107.

Nightingale, F. (1860). Notes on nursing: What it is, and what it is not. New York: Appleton.

Novak, J. (1990). Facilitating nurturant fathering behavior in the NICU. Journal of Perinatal and Neonatal Nursing, 4(2), 68-77.

Obrzut, L. (1976). Expectant fathers' perception of fathering. American Journal of Nursing, 76(9), 1440-1442.

Ott, W., Wicker-Sutton, K., & Friedman, P. (1981). Paternal observation of a cesarean section: and daddy makes three. Perinatology Neonatology, 5, 63.

Palkovitz, R. (1982). Fathers' birth attendance, extended contact, and father-infant interaction at five months postpartum. Birth: Issues in Perinatal Care and Education, 9(3), 173-177.

Pannabecker, B., Emde, R., & Austin, B. (1982). The effect of early extended contact on father-newborn interaction. Journal of Genetic Psychology, 141, 7-17.

Parke, R. (1981). Fathers. Cambridge, Massachusetts: Harvard University Press.

Parke, R. (1990). In search of fathers: A narrative of an empirical journey. In I. E. Sigel, & G. H. Brody (Eds.), Methods of family research: Biographies of research projects: Vol.1. Normal families (pp. 153-188). Hilsdale, New Jersey: Lawrence Erlbaum.

Pask, E. (1995). Trust: An essential component of nursing practice-implications for nurse education. Nurse Education Today, 15(3), 190-195.

Pedersen, F. (1980). The father-infant relationship: Observational studies in the family setting. New York: Praeger.

Perehudoff, B. (1990). Parents' perceptions of environmental stressors in the special care nursery. Neonatal Network, 9(2), 39-44.

Peterson, G., Mehl, L., & Leiderman, P. (1979). The role of some birth-related variables in father attachment. American Journal of Orthopsychiatry, 49(2), 330-338.

Philipp, C. (1983). The role of recollected anxiety in parental adaptation to low birthweight infants. Child Psychiatry and Human Development, 13(4), 239-248.

Polit, D., & Hungler, B. (1991). Nursing research: Principles and methods (4th ed.). Philadelphia: J. B. Lippincott.

Pruett, K. (1987). The nurturing father. New York: Warner Books.

Rendina, I., & Dickerscheid, J. (1976). Father involvement with first-born infants. The Family Coordinator, 25(4), 373-378.

Rodgers, B., & Cowles, K. (1993). The qualitative research audit trail: A complex collection of documentation. Research in Nursing & Health, 16(3), 219-226.

Rodholm, M. (1981). Effects of father-infant postpartum contact on their interaction 3 months after birth. Early Human Development, 5(79-85).

Rodholm, M., & Larsson, K. (1979). Father-infant interaction at the first contact after delivery. Early Human Development, 3, 21-27.

Roggman, L. (1992). Fathers with mothers and infants at the mall: parental sex differences. Early Child Development & Care, 79, 65-72.

Rubin, R. (1984). Maternal identity and the maternal experience. New York: Springer.

Sabbeth, B. (1984). Understanding the impact of chronic childhood illness. Pediatric Clinics of North America, 31(1), 47-57.

Sandelowski, M. (1986). The problem of rigor in qualitative research. Advances in Nursing Science, 8(3), 27-37.

Sandelowski, M. (1993). Rigor or rigor mortis: The problem of rigor in qualitative research revisited. Advances in Nursing Science, 16(2), 1-8.

Saunders, A. (1994). Changing nurses' attitudes toward parenting in the NICU. Pediatric Nursing, 20(4), 392-394.

Sawin, D., & Parke, R. (1979). Fathers' affectionate stimulation and caregiving behaviors with newborn infants. The Family Coordinator, 28(4), 509-513.

Seppanen, S., Kyngas, H., & Nikkonen, M. (1997). The coping of parents with a diabetic child [finnish]. Hoitotiede, 9(4), 169-177.

Shaul, M. (1995). From early twinges to mastery: the process of adjustment in living with rheumatoid arthritis. Arthritis Care & Research, 8(4), 290-297.

Sherwen, L. (1986). Third trimester fantasies of first-time expectant fathers. Maternal-Child Nursing Journal, 15(3), 153-170.

Simon, N., & Smith, D. (1992). Living with chronic pediatric liver disease: the parents' experience. Pediatric Nursing, 18(5), 453-458, 470-471.

Sparacino, P., Tong, E., Messias, D., Chesla, C., & Gilliss, C. (1997). The dilemmas of parents of adolescents and young adults with congenital heart disease. Heart & Lung, 26(3), 187-195.

Spradley, J. (1979). The ethnographic interview. New York: Holt, Rinehart and Winston.

Stainton, M. (1990). Parents' awareness of their unborn infant in the third trimester. Birth, 17, 292-96.

Sterken, D. (1996). Uncertainty and coping in fathers of children with cancer. Journal of Pediatric Oncology, 13(2), 81-88.

Stern, P., & Pyles, S. (1985). Using grounded theory methodology to study women's culturally based decisions about health. Healthcare for Women International, 6(1), 1-24.

Strauss, A. (1987). Qualitative analysis for social scientists. New York: Cambridge University Press.

Strauss, A., & Corbin, J. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, CA: Sage.

Tappero, E., & Honeyfield, M. (1993). Physical assessment of the newborn: A comprehensive approach to the art of physical examination. Petaluma, CA: NICU Ink.

Taubenheim, A. (1981). Paternal-infant bonding in the first-time father. Journal of Obstetric, Gynecologic, and Neonatal Nursing, 10, 261-264.

Thurman, S., & Korteland, C. (1989). The behavior of mothers and fathers toward their infants during neonatal intensive care visits. Children's Health Care, 18(4), 247-251.

Tomlinson, P., Rothenberg, M., & Carver, L. (1991). Behavioral interaction of fathers with infants and mothers in the immediate postpartum period. Journal of Nurse-Midwifery, 36(4), 232-239.

Toney, L. (1983). The effects of holding the newborn at delivery on paternal bonding. Nursing Research, 32(1), 16-19.

Turner, M., Tomlinson, P., & Harbaugh, B. (1990). Parental uncertainty in critical care hospitalization of children. Maternal-Child Nursing Journal, 19(1), 45-62.

Wapner, J. (1976). The attitudes, feelings, and behaviors of expectant fathers attending Lamaze classes. Birth and the Family Journal, 3(1), 5-13.

Weaver, R., & Cranley, M. (1983). An exploration of paternal-fetal attachment behavior. Nursing Research, 32(2), 68-72.

Wereszczak, J., Miles, M. S., & Holditch-Davis, D. (1997). Maternal recall of the neonatal intensive care unit. Neonatal Network - Journal of Neonatal Nursing, 16(4), 33-40.

Wikander, B., & Theorell, T. (1997). Fathers' experience of childbirth and its relation to crying in his infant. Scandinavian Journal of Caring Sciences, 11(3), 151-158.

Wilson, H. (1985). Research in nursing. Menlo Park, Calif.: Addison-Wesley.

Wolcott, H. (1990). Writing up qualitative research. Newburn Park: Sage.

Wright, L., & Leahey, M. (1994). Nurses and families: A guide to family assessment and intervention (2nd ed.). Philadelphia: F. A. Davis.

Yogman, M., Kindlon, D., & Earl, F. (1995). Father involvement and cognitive/behavioral outcomes of preterm infants. Journal of the American Academy of Child & Adolescent Psychiatry, 34(1), 58-66.

APPENDIX A: CONSENT FORM

Researcher:
Maria Golberg RN BScN MN(C)
Master of Nursing Student, Faculty of Nursing
University of Alberta
Edmonton, AB
Phone Number

Supervisor:
Margaret Harrison RN PhD
Professor, Faculty of Nursing
University of Alberta
Edmonton, AB
Phone Number

The purpose of this study is to understand what it is like to a father of a premature baby in the NICU.

The study will involve no more than three interviews. The total interview time will be about three hours. The first interview will be when your baby is about two weeks old. The second interview will occur about three weeks later. Some fathers may be interviewed a third time. The time and place of the interviews will be convenient for yourself and the researcher.

The interviews will be done face to face by a Master of Nursing student. You will be asked about yourself and your family. The interviews will be tape-recorded. Information about your baby's health will be taken from the hospital record.

There will likely be no harm to you if you participate in the study. You may feel some strong emotions talking about your baby. You likely will not benefit directly from this study. The study may help nurses take better care of other babies and their fathers.

You do not have to take part if you do not wish to. If you do decide to be in the study, you may drop out at any time by telling the researcher. You do not have to answer any questions or discuss any subject in the interviews if you do not want to. Taking part in this study or dropping out will not affect your baby's care in hospital.

Your name will not appear in this study. Only a code name or number will appear on any reports, transcriptions, or field notes. All tapes, transcriptions and field notes will be kept in a locked cabinet separate from the consent forms for at least seven years.

Parts of your interviews may be published or used for education. Your privacy will always be kept. The interviews may be used in some future studies but only if allowed by an ethics committee.

I acknowledge that the above research procedures have been described. Any questions have been answered to my satisfaction. I know that I may contact the person

named below if I have further questions. I have been informed of the alternatives to participating in this study. I understand the possible benefits of joining the study, as well as the possible risks and discomforts. I have been assured that records relating to this study will be kept confidential. I understand I am free to drop out at any time. I understand that if I do not participate my baby's care will not be affected. I understand that if any knowledge from the study becomes available that could influence my decision to continue in this study, I will be informed promptly. I have been given a copy of this form.

_____ _____

Signature of the Participant Date

_____ _____

Signature of the Researcher Date

_____ _____

Signature of Witness Date

I want to receive a summary of the study and have completed the following:

Name: _____

Address: _____

APPENDIX B: GUIDING INTERVIEW QUESTIONS

Fathers' Perceptions of the Antenatal Period and Delivery

Thinking back to the time before the baby was born, what are your thoughts and feelings about the pregnancy? about the baby? about being a father?

How would you describe the delivery of your son/daughter?

How would your describe your role during the delivery?

How are these different from your thoughts and feelings during pregnancy?

Fathers' Perceptions of the Premature Infant

What were your thoughts and feelings when you first saw your son/daughter?

How have these changed?

How are these differ from your thoughts and feelings during pregnancy?

How would you describe your baby's behavior?

Fathers' Perceptions of the NICU Environment

How would you describe the NICU?

Thinking back to your first visit to the NICU, what were your thoughts and feelings?

How have these changed?

How would you describe your role in the NICU?

Fathers' Perceptions of their Fathering Selves

What is like to be the father of a premature infant?

What makes you feel like a father?

How is this different/same as your thoughts and feelings during pregnancy?

As a father of a premature baby, how have the staff helped/hindered you develop a fathering relationship with your baby?

How have you coped during this time?

What has been helpful? What hasn't been helpful?

Fathers' Perceptions of Father-Infant Relationship

How would you describe your relationship with your son/daughter?

What are your thoughts and feelings about the relationship?

How has the relationship changed?

What has helped/hindered the relationship development?

In what ways do you feel your relationship with the baby differs from the mother's relationship?

In what ways do you feel that your relationship is the same/ different from that of a father whose baby was not born early?

Fathers' Perceptions of Relationships with Others

How do you feel your relationships with your friends/parents/co-workers have changed?

APPENDIX C: GETTING READY

In the phase of getting ready, the men prepared for the birth of their baby and for fatherhood. Common themes within this phase were: accepting; connecting; fantasying; and expecting. In the following sections, I describe these components.

Accepting

The initial step in getting ready was conscious acceptance of the reality of the pregnancy. Two factors influenced the men's readiness for acceptance of the pregnancy: their perceived preparedness for the pregnancy and previous personal experience with pregnancy.

The men's perceived preparedness for the pregnancy was related to whether or not the pregnancy was a planned event in their lives. For half the men, the pregnancy had been planned and these men described their reactions to the positive pregnancy test in very favourable terms. Kurt recalled: "[When] we found out . . .it was, I don't know, pretty amazing. We were quite happy about it. We were really excited. I thought it was GREAT." When pregnancy was unplanned the expectant father's reaction was less positively toned. Tim responded: "OH NO! It wasn't planned at all that was the part that really started to bug me about it." Chris recalled thinking: "It's just a kind of a shock. [I wondered], are you sure? Where did you get this from? ... You gotta stop and think, well, is this a good thing or a bad thing? What kind of a thing is this?" When the pregnancy was unplanned, the men needed additional time to adjust before coming to accept the pregnancy.

Another factor affecting the father's of acceptance of the pregnancy was previous personal experience with pregnancy. Those men who experienced pregnancy for the first time were slower to accept the pregnancy. Being unfamiliar and removed from the physical and psychological changes experienced by their wives, these men commonly doubted the reality of the pregnancy and of the growing fetus. Tim explained: "It didn't seem very real for the first four or five months . . . I mean I couldn't really tell that she was actually pregnant." Their wife's expanding girth, feeling fetal movement and viewing ultrasonic images of the fetus helped the pregnancy

become 'real' for the men.

> I didn't really believe it until I physically saw it . . . once I saw that [my wife's] tummy was getting bigger, then, I starting thinking it was going to happen in four months . . .it was definite. (Tim)

> The reality started setting [in] once she started getting bigger, that's when it really started to sink in . . . [The ultrasound] at 14 weeks [revealed] there was the baby and they were measuring her and looking at her and things. So, I guess, maybe that kinda was the first step that there really is a baby in there. (Brad)

Connecting With My Unborn Baby

The analysis revealed that the men began to connect with their baby during the prebirth period. The process of father-to-infant connection was assisted by viewing fetal ultrasonic images and tactile contact with their baby through their wife's abdomen.

In addition to providing tangible evidence of the reality of the growing fetus, viewing ultrasonic images was an opportunity for the men to bond to their baby and to experience fatherly feelings. Chris recalled: "You could actually see it. Like you can see a bit of his face and head and you can see some of his arms and stuff. I thought it was kind of neat, that's our little guy." Viewing ultrasounds was particularly important for the men experiencing a high-risk pregnancy. Roger, uncertain about the survival of his unborn baby, explained:

> After [my wife] was in the hospital . . . [and] they were going to do the ultrasound. I tried to make it a point of being there. There may be a chance that [the baby] may not make it. It was extremely important [to see the ultrasound]. I mean, it may be the last time I see him alive.

Another method of connecting with the unborn infant was to feel their baby's movement within the womb. In the following passage, Ross describes this evolution of his connection with his unborn son.

> [At 27 weeks] he had a personality. Sometimes I'd put my head right on top of [my wife's] tummy, just above her belly button, and I would talk and say something. Sometimes I'd get a kick in the head. It was a personality change, you know. Before [at 18 weeks] I knew he was there but I didn't. There was no movement, I guess, no reaction to certain things that I did that would get a

> response from him. And now there was. I was getting responses from him. I could feel him moving.

The reciprocal interchanges between a father and unborn baby, as described by Ross, was important to the connecting process and to kindling fatherly feelings. Ross shared: "In some ways that's an absolutely wonderful experience. With that first response I got from him, I felt, WOW, this is great."

As the ability to feel fetal movement was directly related to gestational age and size of the growing fetus, the intensity of the connection from father-to-infant evolved over time. In the following two quotes, the gestational ages of the fetuses were similar. However, due to differing patterns of fetal growth, one expectant father does not experience the same intensity of father-to-infant connection.

> I was spending those hours and hours out in the middle of the night waking up and just talking and caressing her stomach and feeling, you know, the movements of the baby. [Father of an appropriately growing fetus]

> I never really felt him, though. The thing is, he was small, and he was early. She could feel him kicking around, but I couldn't. You know, . . . you kind of miss out on things like that. [Father of a growth restricted fetus]

A wife may act as gatekeeper to their husband's involvement in the pregnancy experience and thus, may limit his opportunities to connect with his unborn baby. The most poignant example of this type of gatekeeping was provided by Ross when he compared his pregnancy experiences with two different partners.

> [My first wife] was very opinionated . . .she came into [my first pregnancy experience] with [the attitude], this is the way its gotta be . . . I was told this is how you have to do it. It just seems during this pregnancy [with my second wife], it was more us, . . . more communication, I feel more involved with the pregnancy and fatherlike.

Fantasying

In getting ready, each man began fantasizing about fathering the unborn child. For all men, fatherhood was equated with physical activity. Fantasies about their unborn child centred around physical play activities that they could share as father and child. As most fantasies revolved around a male child, there was clearly a link between what gender the men were "hoping for" and activity. Tim shared: "There was

a little piece of me that would have liked to have boy cuz I could play ball with a boy." In the following quote, Chris compares hypothetical interactions between a father and children of differing gender. His difficulty in relating to a female child is readily apparent.

> I just kind of try to think what would I do if it's a little guy. What could we do together? Go and play catch, frisbee, or something active. Would he like motor bikes [like me]? Wouldn't he? Would we let him ride them? And, you know, if it's a girl, well [pause], is there anything I can help her with? Make some, well [pause], help with schoolwork, maybe.

There was also a relationship among physical activity, desired gender and having been fathered. This connection was rooted in the man's experiences with his own father. Kurt explained:

> Guys like to have a boy so they can do things with them, do guy things. I work on a lot of people's hotrods and stuff in town. It's lots of fun. It would be nice to have a son to do those things, to learn those things, cause I did them with my dad when I was growing up . . . so I thought it would be nice to be able to teach my son those things.

Assuming and Expecting

Prior to the emergence of pregnancy-related problems, the men were not anticipating any difficulties. After all, "everything was going great" and their wives were "pretty good about eating good . . . taking supplements and going to the doctor regularly and doing all those things" to prevent possible complications. Clearly, the men assumed that the pregnancy and birth would proceed along a normal course. Brad said: "I couldn't have imagined something happening . . . that wasn't part of the plan."

The birth was expected to occur in a hospital and health professionals were expected to have the knowledge and skill to safely care for their loved ones. Men living considerable distance from the hospital carefully planned for the safe and timely arrival of their wife to the hospital. All men expected and wanted to be actively involved in the birth. The men's birthing expectations were based on personal experience, the experiences of others or both. For example, based on his previous

birth experiences, Spence anticipated his baby to be delivered vaginally with only the family doctor in attendance. Men with limited personal experience had less clearly defined expectations. Brad, a first-time expectant father, explained simply: "I expected to be there, and she expected me to be there, and that's the way it was going to be." Ross more clearly described his expectations for his role and for the birthing process as:

> Supporting and being there, and I think caressing and touching, what I understand, plays a big part of it. Being in labor let's just say 10 hours even, you know. You're building up. I would assume that as every hour goes by at being in labor your anxiety is building up and you're kind of working your way up as the hours go by. Working up with it, you know. And then the wonderful moment is finally here after, you know, after those hours of anxiety and waiting and building and being through labor and everything else.

Expectations for the unborn baby and, later, the newborn infant were also described by the men. The unborn was expected to be "active" in the womb; newborns were expected to be healthy and about "seven pounds," to have "ten fingers and ten toes," to be "crying and hollering [and] wiggling constantly" and "kicking, doing these things that a baby will do."

In summary, the men consciously prepared for the birth and fatherhood during the prebirth period. Once the pregnancy was accepted, the men began to get ready for the birth and impending fatherhood by connecting with their unborn child, fantasying about father-child interactions, and establishing expectations for pregnancy, the birth and their newly-born baby. For most men, the process of getting ready prematurely ended when the emergence of pregnancy-related problems precipitated the birth.